



NEWSLETTER

WOODS HOLE OCEANOGRAPHIC INSTITUTION

WITHHOLDING TAX NOW APPLIES TOWARD TUITION REIMBURSEMENT PAYMENTS

For a number of years the payments made by the Institution to reimburse employees for tuition costs associated with courses taken have been exempt from federal income withholding tax and social security tax. The law granting this exemption expired as of January 1, 1984. It was thought at the time that the law would be extended for an indefinite time in the future; however, Congress failed in the recent tax bill to extend this exemption. As a result, all payments made to reimburse employees for tuition payments are subject to normal withholding and social security taxes.

The tuition reimbursement that WHOI makes may be deductible on your individual tax returns as a business expense. However, you should consult your tax advisor to determine if you fall into this category.

If you have any questions contact the Education Office, ext. 2219.

TWO WHOI SCIENTISTS VISIT CHINA

George Grice, Associate Director for Scientific Operations, and Nancy Marcus, an associate scientist in the Biology Department, recently completed a two and a half-week trip to China.

On the invitation of Prof. Zheng Zhong of Xiaman University (with whom George has been exchanging scientific reprints over the past few years), they visited the school and presented a series of papers on copepod reproductive biology. The morning lectures were followed by afternoon laboratory work or discussion sessions with students and faculty.

"We were well taken care of," says George. "Marine biology in China originated at this university and Zheng Zhong, the guiding founder of the program (and a grand old gentleman), orchestrated our visit." Of particular pride to Xiaman University personnel is their library, which survived the cultural revolution in better condition



Nancy Marcus and George Grice met with Xiaman University personnel including Wang Gui-zhong, who will be coming to WHOI in September as a visiting investigator (third from left) and Prof. Li Song (second from right).

than most university libraries in China.

The university now serves 5,000 students in various fields and plans call for a doubling in student population by 1990. "Unfortunately, the faculty and students at Xiaman must make do with limited facilities," noted George. Field work in marine science is severely hampered by lack of a vessel and the existence of Taiwanese-controlled islands just off the coast.

"There's great interest in the type of work we're doing and a need for U.S. scientific equipment and expertise," said Nancy. One of the scientists they met at Xiaman will be coming to WHOI in September to work in Nancy's lab for a year. In addition, Prof. Li Song will be collaborating on several copepod culture studies and relaying the information to Woods Hole this fall. He too may visit here next year.

The city of Xiaman has only been open to Westerners for some four years, making the WHOI travellers as much a curiosity to the populace as China was to Nancy and George.

In addition to their week at Xiaman, the WHOI scientists visited Shanghai and Beijing as well as several sightseeing spots including the Great Wall, Ming tombs, Forbidden City, and the terra cotta soldiers at Xian. "We even got to see some of the Olympics on Chinese TV," said Nancy.

ALVIN DIVES ON JUAN DE FUCA RIDGE REVEAL SMOKERS AND VENT COMMUNITIES

A series of ALVIN dives on the Juan de Fuca Ridge off Oregon and Washington has revealed a number of black smokers and abundant marine life on this spreading center similar to that found further south on the East Pacific Rise. Chief Scientist on the dives was Alex Malahoff, a geophysicist with NOAA, who detailed his findings at a press conference in Newport, Oregon, on July 28.

Press interest in the ALVIN dives has been extensive, with coverage in many of the West Coast daily papers and on local television newscasts. The ATLANTIS II/ALVIN crews hosted an open house that allowed tourists and press to get a look at the sub and her mother ship while in Newport.

Jim Hardiman, described by one newspaper as a "calm, bespectacled ALVIN pilot," explained the principles of sub operation to visitors and tried to answer a bombardment of questions. "Oh, boy, what a circus," he is quoted as saying. "I haven't had this much attention in years."

The July dives were the first phase in a three-part program to study mineral concentrations at the Gorda Ridge (with possible ramifications toward the issuance of mineral mining leases) and vent communities along the Juan de Fuca Ridge. Scientists had known of the existence of the smokers, but the dives were the first close-up looks at these phenomena. The second phase of the program (chief scientist LaVerne Kulm from Oregon State University), completed August 16, looked at the sediment structure of the sea-floor plate that is ramming into the continental shelf. Kulm's crew was also interested in the path of hot water spewing from "mud volcanos." The third part of the study, now in progress, is a detailed biological and geological study of the hot vents on the Juan de Fuca Ridge. Chief scientists are from the University of Washington.

This is ALVIN's first trip to the Pacific Northwest. ALVIN/A-II will spend the rest of the year in southern California.

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

KARSON PROMOTED TO ASSOCIATE SCIENTIST

Jeffrey A. Karson has been named an associate scientist in the Geology and Geophysics Department. Jeff came to WHOI in 1979 as a postdoctoral scholar, and was appointed assistant scientist in 1980. He received his undergraduate degree in geology from Case Western Reserve University and his master's and doctorate from the State University of New York at Albany.

Jeff's research interests include internal structure of the oceanic lithosphere and ophiolites, deformation in high-strain zones, physical properties of ultramafic and mafic rocks, and tectonics of the Appalachians. He is the author or co-author of 20 scientific publications.

WINNERS OF JULY CROSSWORD PUZZLE CONTEST

Jim Mitchell was the first person to return his completed puzzle to the Public Information Office and wins a WHOI T-shirt for his speedy (1-hour) solution. Since many WHOI employees had not even received their puzzles by the time Jim had won, a drawing from all other correct entries was made. Winner of the second WHOI T-shirt is Hoyt Watson.

ANSWERS TO JULY CROSSWORD PUZZLE

G	A	L	A	P	A	G	O	S	R	I	F	T	V	E	N	T	S
T	I	R	O	S	C	A	P	E	S	A	A	B	R	A			
L	O	N	G	B	O	A	T	S	P	E	T	E	R	S	O	L	
N	O	S	L	O	E	N	F		D	E	B		U	P			
F	Y	E	T	D	P	R	A	Y	G	R	U	E	L	G			
I	S	J	E	N	A	B	T	O	M	O	G	R	A	P	H	Y	
O	F	A	R	R	I	N	G	T	O	N	W	H	I	C	H	A	
A	Y	S	P	I	N	E	T	P	Y	O	K	Z	R				
T	A	P	O	O		L	I	M	L	U	S	B	E				
X	A	N	T	H		F	A	N	S	S	M	O					
D	N		M	A	D	I	N	E		D	E	P					
A	S	T	E	E	L	E	R	N	O	R	R	K	E	L	P		
R	E	N	O	I	R		L	I	T	T	L	E	E	V	E	A	
M	A	I	N		G	R	A	F	O		L	O	R	A	N	C	
C	S	G	S		Y	R	I	N	A	I	M	A	N	S	K	O	
O	A	S	P	I	N	D	E	L		L	C	Y	S	T	R		
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E	W	O	W	A	R	D	S	I	V		V		N	S			
R	M	A	N	G	A	N	E	S	E	N	D	U	L	E			
T	R	R	E		K	E	M		A	U	S	U	R				
N	O	N		S	P	I	N	U	A	H	I	L	L	E	R		
G	E	O	P	H	Y	S	I	C	S	U	N	O	U	Z	E	D	

 Monday, September 3, is Labor Day. Enjoy the long weekend!

RIGHT TO KNOW

Massachusetts has enacted a "Right to Know" law which will take effect in September. The purpose of the law is to further protect the public health by transmission of health and safety information about toxic and hazardous substances in the workplace.

A list of approximately 2,500 substances has been published, and any of those, or any product containing more than one percent of any of the substances, are subject to the regulations. All employers in Massachusetts are required to obtain a Material Safety Data Sheet from their suppliers for any of these materials, and to make the MSDS available to employees upon request.

The law also provides for a research laboratory exemption, based upon the premise that research laboratories are supervised by technically qualified individuals who inform and train employees in the hazardous properties of materials used in the laboratory. The Institution intends to apply for this exemption, and has posted notices to that effect.

Three state agencies have been designated as responsible for the administration of the law: Department of Public Health, Department of Environmental Quality Engineering, and Department of Labor and Industries. Each department has published regulations pertaining to their designated role.

Copies of the law and the regulations promulgated under the law are available in the WHOI Safety Office, which is now located in the northwest mezzanine of the Iselin Building. There are also approximately 1,500 Material Safety Data Sheets on file in the Safety Office, and these are available for reading or copying. Contact Eric Spencer, ext. 2242, for more information.

BENEFIT BRIEFS - IMPORTANT NOTICE

Employees or their spouses age 65 or older who are enrolled in WHOI's Blue Cross/Blue Shield Plan should contact Terri Monroe, ext. 2706, to avoid rejection of claims and to verify enrollment in the proper group. Benefits available to covered members are the same regardless of age.

The CREF value for July 31, 1984, decreased to \$60.31 per unit from \$61.71 on June 30, 1984.

PROMOTIONS AND OTHER PERSONNEL CHANGES

Recent promotions include:

KENDALL B. BOHR - Purchasing - from Buyer I to Buyer II.
JAMES M. BROADUS - MP&OM - from Policy Associate to Social Scientist.
NANCY HAZELTON - Controller - from Accounting Assistant to Sr. Accounting Asst.
JEFFREY A. KARSON - G&G - from Assistant Scientist to Associate Scientist.
FRED W. KELLER - Facilities - from Plant Mechanic to Senior Plant Mechanic.
CRAIG D. MARQUETTE - P.O. - from Research Assistant II to Research Asst. III.
TERESA L. NIELSEN - O.E. - from Secretary I to Secretary II.

Recent reclassifications include:

RONALD J. KROLL - P.G. - from Research Assistant-Oceanography to Research Assistant-Electronics.

Recent appointments include:

MEIR FEDER - Visiting Investigator - O.E.
BARBARA KAMICKER - Postdoctoral Scholar - Biology.
JOHN L. KERMOND - Visiting Investigator - MP&OM.
DAVID B. LAZARUS - G&G - Assistant Sci.
JULIE LEARY-PEDERSEN - Visiting Investigator - Chemistry.
CHRISTOPHER S. MARTENS - Adjunct Scientist - Chemistry.
DOUGLAS C. NELSON - Visiting Investigator - Biology.

Recent retirements include:

JOSEPH WARECKI - bosun - R/V OCEANUS.

INSTRUMENT STAGING ROOM AVAILABLE

Bigelow G-8, formerly the painters' room, is now available as an instrument staging facility on a monthly basis. The dry room is convenient to the dock and ships. Contact Rick Chandler, ext. 2612, for more information.



Elizabeth Newell takes her mother, Barbara, for a walk in the hay.



Bob Tavares manned the kegs filling up countless pitchers. Sodas were self-serve.



Hovey Clifford, picnic co-chairman, and daughter, Sheila, helped make the picnic a success.



The hay pile was popular with children. Here, Matthew Berthel gets buried.

SUN, FUN, FOOD, MUSIC MAKE PICNIC A SUCCESS

The annual WHOI picnic was again favored with pleasant weather, good music, and a large crowd. Popcorn, watermelon, beer and soda, and grills met the feasting needs and volleyball, badminton, hay piles, pony rides, and face painting kept children and adults busy.

Hovey Clifford and Barbara Newell, picnic co-chairpersons, and the picnic committee of Sparky Bowman, Tracey McEachern, Sharon Downey, Mike Givertz, Bob Hindley, Caroline Pomeroy, and Robert Tavares were kept busy at the various stations and at clean-up.

Special thanks go to Ed Denton for putting up the backdrop for the band, the electric wiring by Dave Daniels, Bob Hindley for logistics (setting up chairs, tables, etc.), the "Suspenders" juggling group, George Ferreira for donating the popcorn and oil, Dave Graham, Scot Birdwhistell, and Scott WorriLOW for helping dispense beer, and Charlie Innis for special administrative assistance.



John Salerno and his 12-piece band provided a wide range of listening music for the crowd.



Carl Young (right), his daughter, Carla, his grandchildren, and Don LeBlanc enjoyed the sunshine.

The Travers children sample the refreshment



Rod and Kathy Catanach had a grape time.



Tom Sgouros (left) teaches Frank Travers to juggle as interested students of the art look on.

BROADUS APPOINTED SOCIAL SCIENTIST

James M. Broadus has been promoted to Social Scientist in the Marine Policy and Ocean Management Program. A graduate of Yale University's Ph.D. program in economics, Jim has research interests in market organization and public policy, natural resources, energy and environmental economics. He has studied organization and regulation of marine resource industries, marine minerals and seabed mining, pre-production behavior in new industries, international cartels, and the role of marine resources and marine policy in developing nations.

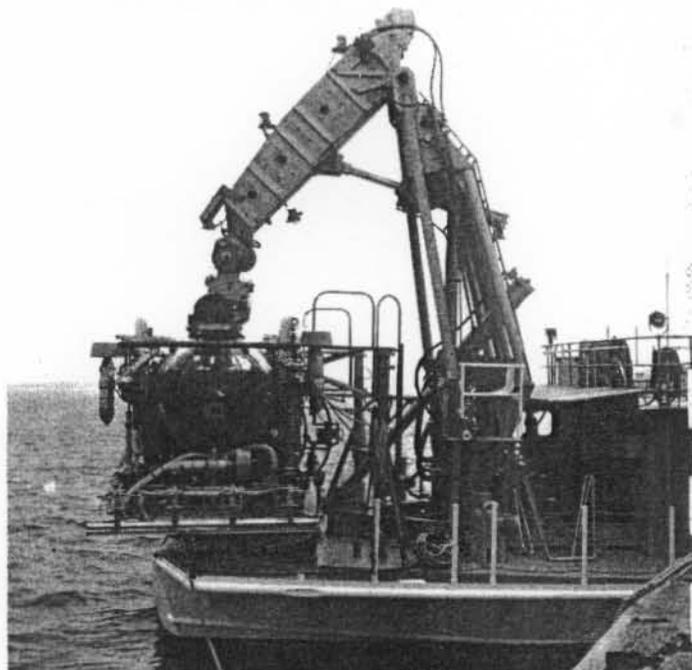
Jim was an economist with the U.S. Department of Justice in Washington, D.C. from 1975 to 1979, during which time he earned an Outstanding Performance Rating and two Special Achievement Awards. He then served as a Visiting Assistant Professor of Economics at the University of Kentucky before coming to WHOI in 1981 as a Marine Policy and Ocean Management Fellow. He was promoted to Policy Associate in 1982. He also serves as a consultant to the U.S. Congress, Office of Technology Assessment.

OCEANOGRAPHIC SHIP NOTES

KNORR returned to Woods Hole on August 13 after an extended stay at the Boston Shipyard due to a cracked cycloidal propeller housing. On August 18 she departed on Voyage #106 to the Nova Scotian Continental Rise in connection with the HEBBLE Program. The objective of the cruise is to continue detailed study of the seafloor's response to benthic storms (the swift currents, in particular the Western Boundary Undercurrent, that sweep vast areas in the deep ocean on the continental margin off North America). Scientists from various institutions will analyze recovered sediment samples, bottom stereo pair and oblique photographs, and shear stress and light transmission data. KNORR is due back on August 29.

After a short three-day voyage for physical oceanography, OCEANUS was refit for Leg I of extended Voyage #158 to Ponta Delgada, Azores. The purpose of this month-long leg, which departed August 8, is to continue long-term research programs on the

biology of gelatinous zooplankton. Specific investigations include the metabolism and life history of salps, feeding rates and specializations of ctenophores, and morphology and behavior of amphipods. Scientific activities will include day and night SCUBA diving for sample collection, mid-water trawling, and plankton tows.



Harbor Branch Foundation's SEA LINK submersible docket at Woods Hole for several days before heading out to Georges Bank for Fisheries studies.

ATLANTIS II and ALVIN have just started Leg XI of extended Voyage #112 from Astoria, Oregon. This is the third phase of the Juan de Fuca Ridge explorations detailed in another article in this issue. ALVIN will attempt 18 dives during this three-week leg before returning to Astoria September 10.

LAZARUS APPOINTED TO G&G STAFF

David B. Lazarus, a guest investigator at WHOI from 1983-1984, has been appointed an assistant scientist in the Geology and Geophysics Department. Dave received his undergraduate degree from the University of Minnesota in geology, and his master's and doctorate from Columbia University in micropaleontology. His research interests are evolutionary biology, paleoceanography, biometry, biostratigraphy, and marine geology. He is the author or co-author of six scientific papers.

NEW FACES

August 1984



Susan M. Bourgoin
Sr. Accounting Clerk
Controller
Challenger/x2485
V. LeFavor



Lisa M. Brunette
Library Technician
Document Library
Smith 206/x2269
C. Winn



Lisa Gerstein
Secretary
Biology
Clark 432/x2741
J. Kleindinst



Ann M. Hart
Audiovisual Tech.
Graphic Services
Blake/x2782
V. Cullen



Anne V. Judge
J.P. Student
Physical Oceanography
Fenno 206/x2629
J. Pedlosky



Barbara J. Kamicker
Postdoc. Scholar
Biology
Redfield 2-20/x2742
J. Waterbury



Alan J. Lewitus
J.P. Student
Biology
Clark 403/x2570
J. Goldman



Frank L. Lowenstein
Assistant Editor
OCEANUS
Co-op/x2386
P. Ryan



John E. Pomer
Research Assistant
Physical Oceanography
Bigelow 301/x2550
R. Payne



Douglas K. Tiernan
Assistant Electrician
Facilities
Iselin 142/x2483
E. Charette

ADDITIONS TO WHOI FAMILIES

Congratulations go out to three WHOI families. Ralph and MaryEllen Stephen welcomed 6 lb., 10 oz. Emily Patricia on June 14. Ralph is an associate scientist in G&G. Karen and Brian Littlefield's new addition is 7 lb., 15 oz. Nicholas Sean, born July 21. Brian is a research assistant in P. O. and Karen was a project coordinator in O.E. Marga and Bill McElroy are the proud parents of Michael James, born August 3 and weighing 6 lbs., 10 ozs. Marga is a research assistant in O.E. All three babies were born at Jordan Hospital.

IN MEMORIAM

The Institution announces with sorrow the death of Allard Theodore "Ted" Spencer on July 30 at the age of 69.

Ted began his employment at WHOI in 1947 as an Instrument Maker working for Chuck Bodman. His talents were recognized early on by Dean Bumpus and others and in 1954 he was promoted to the scientific staff as a Research Associate primarily developing sophisticated instrumentation for the meteorology group. He collaborated on the design, construction and deployment of instruments for cloud physics research, as well as field and laboratory experiments in meteorology and atmospheric electricity.

Ted helped design and fabricate a portable gravity meter and portable microfilm cassette for Carl Bowin's gravity work. In addition, his work included designs on current meter rotors, thermistor probes for the rotating basin, precision bearings and components for current meters, and electron microscope hardware.

In 1963 Ted was promoted to Research Specialist, a position he held until his retirement in 1980. During his career he authored or co-authored eleven scientific publications on meteorological instruments and cloud physics.

8086/8088 ASSEMBLY LANGUAGE COURSE OFFERED

Ken Prada will be teaching a course on the 8086/8088 assembly language starting October 4. The class will meet in the Smith Conference Room Thursdays from 10:00 until noon, and will run for about 10 weeks.

The course will cover: 8086/8088 architecture, 8087 numeric processor, 8086/8088 assembly language, and programming examples/exercises. The textbook is The 8086/8088 Book by Russell Rector and George Alexy, published by OSBORNE/McGraw-Hill (Berkeley, CA, 1980). Copies of the book will be in the Woods Hole Market Bookshop before the class starts.

The fee, chargeable to a WHOI project number, will be \$250, based on an enrollment of 10 people. A minimum of 10 students is needed for the class to take place. Please register before September 5 by calling Chris Lynch, ext. 2417.

DIVER RESCUE WORKSHOP OFFERED

Terry Rioux, WHOI diving safety officer, is co-sponsoring a Diver Rescue Workshop with Lifeguard Systems Inc. from September 21-23. The hands-on program has been designed to prepare the diver to handle a variety of emergency situations including air embolisms.

Terry recommends the workshop to any WHOI diver or diving enthusiast with an interest in continuing their diving education. The Friday evening through Sunday course costs \$50. A \$10 deposit made out to Lifeguard Systems Inc. should be sent to Terry, Iselin 151, as soon as possible. For more information, call him at ext. 2239.



Frank Carey dissected a 654-lb., 11-ft. great white shark on the WHOI dock July 23. "I don't very often get a chance to look at these sharks; I've probably only seen 6 or 7 in the whole time I've been studying them," he noted. Frank's research focuses on body temperature and behavior. The shark was donated to the National Marine Fisheries by Robert Mayo and brought to WHOI for the autopsy. Photo by Anne Rabushka.