The HMSC Newsletter

August 1999

Pamela Rogers, Editor

Gutted "garage," facing area for dust collector room - note darker area of new concrete in rear

Looking toward the future hallway from the back door

**New Physical Workshop Takes Shape**

Since the former Physical Plant workshops in the RSF building have been remodeled into offices, the former "garage" in the west wing of the main building is being renovated into a workshop. The area used to be used for boat and miscellaneous storage, which has been moved out or sent to Surplus.

The entire garage area was cleaned out and Orca Builders have poured concrete (see photos) to level the floor for safe installation of saws, lathes, etc. In the southwest corner a small room will be built to hold the new dust collection equipment and a hallway will be built from the back door into the hallway of the west wing. This will enable Sea Grant personnel to get to their offices without having to go through the shop area.

In the meantime, the Physical Plant asks that everyone use alternate entrances while the shop is being put together. They appreciate your cooperation.

**Tomoko Kurokawa Interns with VENTS**

From mid-July through September, Bob Embley will be working with Tomoko Kurokawa on an internship project partially funded by Sea Granta map of the Cobb segment using 17-year-old data. At this stage, the project closely resembles a jigsaw puzzle, as not all the data were digitized and the pieces must be carefully put together.

Tomoko is a post-bac student who has changed her interest from sociology to oceanography/marine geology. Just before she completed her degree at Temple University, she came across some fascinating articles about marine science that drew her attention to the marine world. Then she read *The Octopus' Garden*, all about the new discoveries about seafloor spreading. The subject intrigued her so much that she decided to go back to school to get the needed science courses before going back for an M.S. in oceanography. She connected with Dr. Embley after seeing him on a Japanese TV program.

Tomoko has been in the United States twice before, first as an AFS exchange student in high school, then later studying at Macallister College in Minnesota and finishing at Temple University in Philadelphia.

She is no stranger to adventure. To achieve her dream of flying, she has learned paragliding, which is like hang gliding but done with a parachute-like structure and a sitting harness rather than laying out under a fixed wing. She has flown in Japan, France and the U.S. and gone up to 5,000 feet, sailing near Mt. St. Helens. She points out that it is much easier to transport paragliding equipment than hang gliding. She has also worked for a month in an orphanage in northern India. She enjoys hiking, mountain climbing and sailing.

**Fish Disease Research Goes in Many Directions**

Kyoung Chul Park has continued his studies on what factors are involved in causing certain strains of viruses to kill fish while other similar strains don't (National Sea Grant Technology Grant). The current focus is on two factors. The first is a factor in serum of apparently healthy trout which inhibits the ability of the virus to replicate. Further characterization of this substance indicates that it requires the divalent cation magnesium to be effective, and that the ability to inhibit virus growth in cell culture is limited to some trout and Pacific salmon cell lines, but that inhibition does not occur in the most commonly used cell line from chinook salmon. He also found that if some strains of virus were grown in cell culture for longer periods, they lost their capacity to resist the serum inhibitor. This may explain why virus grown for long periods in cell culture become avirulent in fish.

A second factor in virulence, related to the above experiments, is the number of times the virus has been grown in cell culture. Preliminary evidence by others had indicated that if the virus was grown several times in cells first, it would lose virulence. In an extensive experiment, Kyoung determined that the virulence of the virus for brook trout was undiminished even after several cycles of replication in cells. Kyoung is currently evaluating what changes, if any, have occurred in the genome of the viruses treated by growing in cells, whole fish, or in the presence of trout serum. They anticipate that changes at the level of the genome may explain some of the unusual results found in these experiments.

Hamdi Ogut has finished the laboratory portion of his experiments designed to determine how fish diseases are transmitted. He is currently analyzing the extensive data generated in these experiments and is writing a computer program to allow him to construct mathematical models of the disease process in populations of fish.

Tim Miller-Morgan has changed course and has begun on another epidemiologic research effort in the lab. He is working on a project funded by the Western Regional Aquaculture Committee (USDA) to determine the

pattern of pathogen distribution in wild and cultured salmonids in the Western U.S. Data on fish diseases in feral and hatchery-reared fish are currently being gathered from state and federal agencies throughout the West. The data will be analyzed to determine whether the presence of pathogens in hatchery fish is correlated with the development of disease in wild fish in the areas where cultured and wild fish coexist and where infected stocks may have been planted into waters where pathogens were not present.

The resurrection of studies on the microsporidian parasite of Dungeness crabs has occurred by dint of the interest of Hal Amogan, a graduate student in the Department of Microbiology. Hal has started a project to determine the taxonomic status of the pathogen by study

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ing the sequence of the small subnunit RNA of the ribosome and will be trying to work out the components of the genome of the organism and its structure.

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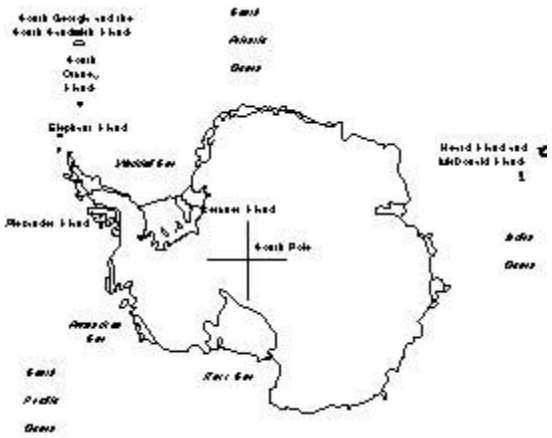

**Marine Mammal Group Outlines Future Plans**

In July-August 1999, Dr. Mate will tag blue whales off southern California and track them to fall feeding areas off the southwest Baja Mexico coast.

In December 1999, Dr. Mate anticipates tagging humpback whales in Hawaii to compare movements of whales arriving on the breeding ground early in the winter with those arriving late (data obtained from previous years). He hopes to determine the residency time for whales in Hawaii, and whether animals arriving at different times of the year are from different feeding stocks.

In January 2000, Dr. Mate anticipates further humpback tagging along the Antarctic Peninsula in cooperation with scientists of the Chilean Antarctic Institute. He hopes to track whale movements within their feeding habitat during the austral summer, and examine the relationship between these movements and available prey distribution information as well as physical and biological oceanographic conditions. Dr. Mate also hopes to identify migration routes from the summer feeding grounds in the Antarctic to the winter breeding and calving areas.

Three of Dr. Mate's graduate students are continuing their oceanography doctoral programs. Kate Stafford is continuing to document the seasonal occurrence of blue whales throughout the Pacific Basin using acoustic information. Mark Baumgartner is currently developing a proposal to characterize right whale habitat in the North Atlantic. Daniel Palacios conducted his first season of research during the late summer and fall of 1998, examining the distribution and abundance of coastal spotted dolphins in the Eastern Tropical Pacific. His next field season will concentrate on cetaceans around the Galapagos Islands.

## ORBIS Service Wins Fans

All OSU faculty, staff and students* can now take advantage of the new ORBIS book loan service. ORBIS provides patron-initiated access to more than seven million library items with the simple click of your mouse. To order a book, locate the library catalog (Oasis) on the web at: http://oasis.orst.edu/ Then click on ORBIS at the left side of the page. You'll be asked for your name, home institution, delivery location, and your university I.D. number. The book will show up in your mailbox usually within 3 days. People who are using the service already are impressed with the simplicity and speed of ORBIS. Why not give it a try?

* Sorry, the ORBIS service is unavailable to HMSC folks who are unafilliated

with OSU.

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## Personnel Notes

**Michael Grigsby** has joined the Physical Plant staff as our HVAC technician. Mike has been in this field his entire working life, working in Texas, Missouri and Oregon. He is married with two boys, 11 and 13, and enjoys fishing, hunting, hiking and the outdoors.

Michael Grigsby

**Terri Nogler** has just been elected as Secretary-Treasurer of the Lincoln County Interpretive Association. She takes over the notepad from Mike Rivers of Oregon State Parks. Congratulations, Terri!

Welcome to **Randy Walker**, our new Physical Plant Manager! Randy began learning about this huge facility on August 2. He comes to us from Grays Harbor Community College in Washington, where he was their facilities manager.

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