

Jaws galore

Prof creates ocean for WSU sharks

Biology Professor Walter Chavin built the only artificial ocean in the world at Wayne State University because he believed the shark is the perfect animal to use in scientific experiments.

The facts that he would be doing research on sharks in the Midwest and have difficulty bringing in sharks from both oceans didn't bother him.

Moreover, no one had ever built the kind of facility he planned, and he had no money.

TODAY IIE has four research pools which will hold up to 80 sharks. They have such an effective recycling system that the water put in the pools 8 1/2 years ago is still being used.

Chavin estimates it would cost \$1 million to have a contractor build his "ocean." He says the cost to WSU of building it has been \$5,000 to \$6,000 for materials.

Sharks are flown in from California and Florida after being captured by scuba divers. At present there are about a dozen sharks being studied in the WSU facility, housed in an ancient brick building on Hancock just off Woodward Avenue.

Research is ongoing in the study of endocrine glands, blood cells, membranes and kidneys. Dr. Chavin finds the shark to be perfect for these experi-

ments because it is a vertebrate with systems similar to man, and yet much simpler to study than more complex animals such as laboratory rats.

AN ADDED advantage is that the body temperature of the shark may be raised and lowered. Their tissues are really organs and are large enough for many experiments to be performed on one shark.

"There is a treasure trove of scientific material yet to be explored," said Chavin.

The Chavin facility is envied even by those located at oceanside and able to study sharks in their natural environment. The ocean may change in temperature or salinity with the weather, and pollution is a factor. But WSU's sharks have a perfectly controlled surrounding.

The inhabitants respond to their environment so well that resident sharks have laid and hatched eggs for the first time in captivity. Horn sharks from California have also laid eggs, although Chavin believes they have not been fertilized and therefore have resulted in no new horn sharks.

CHAVIN BEGAN his project by building pools for the sharks from Fiberglas. Then the real challenge faced him and his assistant Kenneth Honn, now an assistant professor of biology.

They had to find a way to clean up the shark waste by building a water treatment facility which would keep the water quality constant while continuously recycling.

University people contributed time and materials, as did many people in the community. One high school student group was invaluable, according to Chavin. Lacking plumbing, electrical or engineering experience, Chavin eagerly accepted advice and assistance from university maintenance workers.

The team designed a five-step water treatment process which first filtered the waste water, then passed it over a bed of algae.

The water was pumped into a bacterial bed and then into a reservoir where it received a constant supply of ozone. A final filtration treatment made it ready to go back into the shark tanks.

A SEVERE financial problem loomed when Chavin learned that ozone generators would cost about \$25,000.

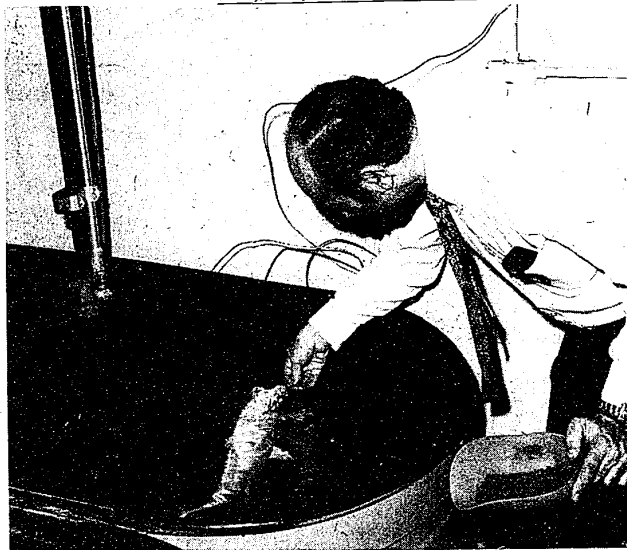
He got a book on ozone production, and the team designed an ozone generator which cost \$50 to build and was small enough to hold in one hand.

A commercial ozone generator would be about the size of a desk.

A 600-gallon prototype model tested out well that the whole system was finally completed after nearly five years of work and planning. Now marine biologists from around the world come to examine the "ocean" that exists in the middle of Detroit.

Chavin says part of the success of the team may lie in its innocence. "We did things more sophisticated people would not have tried," he said.

The university has appreciated his accomplishments. He has been elected to the prestigious Academy of Scholars at the university and currently is president of that group. He also has received the graduate faculty award.



Walter Chavin feeds a shark in his miniature marine environment on the Wayne State campus.

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Respiratory program accredited

The Committee on Allied Health Education and Accreditation informed Oakland Community College that continuing accreditation was awarded to the respiratory therapy program for a period of four years. A return evaluation is anticipated in April 1984.

The award of accreditation was made upon recommendation received from the joint review committee for respiratory therapy education. It is sponsored by the American Association for Respiratory Therapy, the American College of Chest Physicians, the American

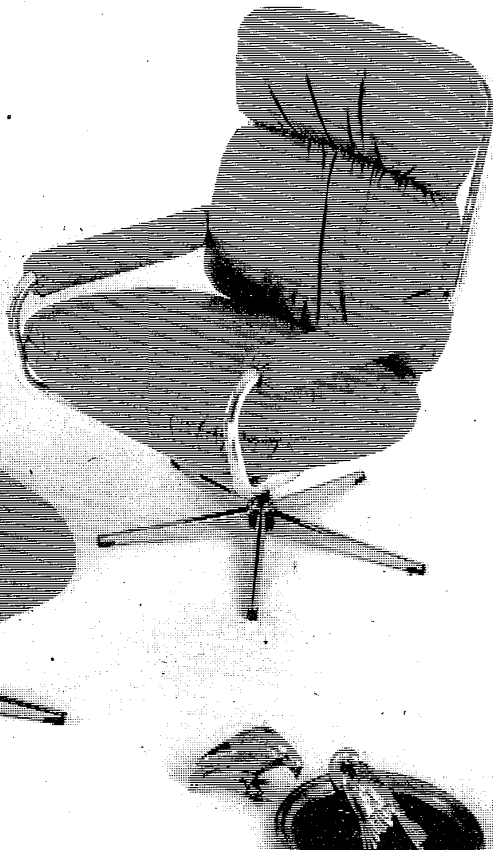
Society of Anesthesiologists, and the American Thoracic Society.

Respiratory therapy is a two-year OCC program which leads to an associate degree in applied science. The first year consists of pre-respiratory therapy courses. The second offers both theory and clinical experience in respiratory care of patients in hospitals, extended care facilities, nursing homes or outpatient clinics.

Prospective students may contact Lillian Kelmanson or Theresa Wangler, Southeast Campus System, 548-1252.

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