



(L to R: Thomas Wilson, Helene Laufer, R. P. Schmidt, Acting President, SUSB, and David Sarokin)

## JESSIE SMITH NOYES WINNERS

Helene R. Laufer, David J. Sarokin and Thomas C. Wilson, Jr. were selected as Jessie Smith Noyes Fellows for 1979-80. The Noyes Fellowship program was established in 1975 with a grant from the Jessie Smith Noyes Foundation to MSRC and the Stony Brook Foundation to support outstanding graduate students working on significant environmental research in the coastal zone.

Helene R. Laufer graduated from SUNY Stony Brook in 1976 with a B.S. in Earth and Space Sciences. She won the Buttonwood Foundation Scholarship for the 1978-79 academic year and has done so again for 1979-80. Ms. Laufer is currently investigating the long-term transport and fate of dredged material at the New Haven dredged spoil disposal site in Long Island Sound, and is being directed in this research by Prof. Henry Bokuniewicz.

David J. Sarokin received a B.A. in environmental science from SUNY Purchase in 1976. He then studied air pollution modelling and sediment transport at the California Institute of Technology's Environmental Quality Laboratory. Mr. Sarokin is presently working with Prof. E. J. Carpenter. His research involves the phytoplankton ecology of the Carmans River, and uses dialysis membrane bags to measure growth rates of natural populations.

Thomas C. Wilson, Jr. holds a B.S. in biology and chemistry, which he received from the College of William and Mary in

1978. He has been an educational volunteer aboard the Hudson River sloop *Clearwater*, and has participated in biological studies of lower New York Harbor. Mr. Wilson is working with Prof. B. H. Brinkhuis to study anaerobic decomposition as it relates to the primary productivity of eelgrass (*Zostera marina*) in Great South Bay.

## DIFFUSION STUDY FUNDED BY U.S. DEPARTMENT OF ENERGY

MSRC Professors Harry H. Carter (Project Director), Akira Okubo, Donald W. Pritchard, and Robert E. Wilson have received funding from the U.S. Department of Energy (DOE) for a two-year diffusion study. Diffusion parameters calculated from different methods will be compared through field experiments using a variety of techniques. Experiments will consist of simultaneous measurements of continuous and instantaneous releases of dye, aerial photography of the dye, current meter measurements from fixed moorings, and measurements of the movement of free-floating drogues. Because of the variety of Lagrangian and Eulerian techniques to be employed in the field experiments, the study has been dubbed LEDS--Lagrangian Eulerian Diffusion Study.

The study has important practical implications because diffusion parameters are used to predict the spread of environmental pollutants such as oil, waste heat, and radioactivity. Until now, diffusion parameters calculated from these different methods have not been critically compared. Experiments will be conducted off the south shore of Long Island, and will begin in November 1979. MSRC investigators will also collaborate with their Dutch colleagues in similar diffusion experiments in the North Sea.

## NEW MESP GRADUATES

Two students completed requirements for the M.S. degree in May:

WAYNE F. PENELLO, Characteristics of metal uptake and release of eelgrass (*Zostera marina* L.) (Professor B. H. BRINKHUIS).

WARREN E. RINGLER, The effects of physical and biological factors on the diurnal cycle of nitrogen fixation in an algal mat (Professor E. J. CARPENTER).

## STEINBERG - SQUIRES AWARD

An annual award honoring the best graduate thesis has been established this summer. The award, which will be known as the Steinberg-Squires Award, was created through donations made to the Stony Brook Foundation by Donald F. Squires, Director of the New York Sea Grant Institute and former director of MSRC, and his wife, Marian Steinberg. The Steinberg-Squires Award will begin with the 1978-79 academic year, and will consist of a \$200 presentation made each year, over the next five years.

## RECENT AWARDS

MSRC student Stephen A. Covell was awarded an assistantship by the International Sea Grant Program in support of his coastal zone management studies in Chile. He has also been granted support by the SUSB Office of International Programs, directed by Dr. Raymond Jones, for an intensive two-month training course in Spanish at the Instituto Enix de Cuernavaca.

Professors Charles F. Wurster and H. B. O'Connors, Jr. received continuing support from the N.Y. Department of Environmental Conservation for their study on the effects of PCBs on plankton speciation and diversity.

Professor Akira Okubo is undertaking a theoretical study of advection-diffusion under a grant from the National Science Foundation.

MSRC student Kenneth P. Kurkowski has been awarded a Graduate Council Fellowship for the second year.

MSRC students Cynthia Dietz and Zena Gold-Kaufman were awarded Sea Grant Traineeships.

Professor J. R. Schubel received an NSF grant toward the purchase of a precision electronic navigation system.

## PEOPLE AND MEETINGS

Professor P. K. Weyl gave an invited talk on water quality in Long Island Sound at the Long Island Sound Conference, which was held in Bridgeport, CT on 19 May. He also presented two lectures on physical oceanography and planktonic relativity at the summer Marine Biology Program at the Isles of Shoals Marine Laboratory, 25-26 June.

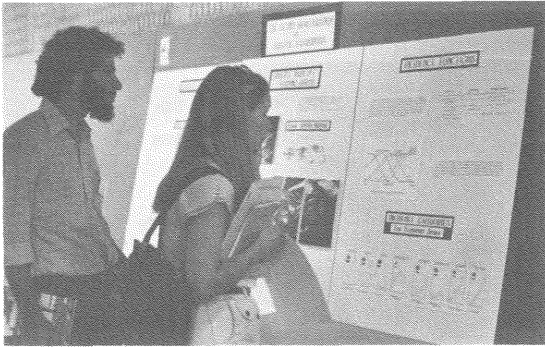
Professor ROBERT MALOUF attended the annual meeting of the National Shellfisheries Association in Vancouver, British Columbia during 25-27 June. Dr. Malouf then traveled to Newport, Oregon, accompanied by Pieter Van Volkenburgh of New York's Department of Environmental Conservation to present an invited seminar on New York's shellfisheries to staff and students of Oregon State University's Marine Science Center.

MSRC student STEVE COVELL participated in the first U.S. North Atlantic Regional Workshop on Remote Sensing in the Coastal Marine Environment. The workshop was held 30 May-1 June at the University of Rhode Island's Center for Ocean Management Studies. Participants were provided with an exchange of information between the developers of remote sensing technology, suppliers of remote sensing data products, and users of remote sensing information.

Professor J. L. McHUGH attended regular meetings of the Mid-Atlantic Fisheries Management Council and its Executive Committee. He attended public hearings for fishery management plans in Riverhead and Rockville Center, NY and participated in a Careers Information Conference sponsored by SUSB. Dr. McHugh presented invited papers at the Long Island Sound Conference and at the ASLO annual meeting.

## SOME RECENT PUBLICATIONS

- GREGES, M. P. and J. R. SCHUBEL. 1979. Thermal resistance of weakfish eggs and larvae. Special Report 22 of the Marine Sciences Research Center.
- JONES, C. R., C. T. FRAY and J. R. SCHUBEL. 1979. Textural properties of surficial sediments of Lower Bay of New York Harbor. Special Report 21 of the Marine Sciences Research Center.
- McHUGH, J. L. 1979. United States Clam Industry: Where is it going? Pages 7-24 in Proceedings of Northeast Clam Industries: Management for the Future. A Workshop sponsored by the Extension Sea Grant Advisory Program, Univ. of Mass., U.S. Dept. Agric. and County Extension Services cooperating with the MIT Sea Grant Program, Amherst, MA.
- McHUGH, J. L. 1979. Review of: *Marine Recreational Fisheries 2*, edited by Henry Clepper, Sport Fishing Institute, Washington, D. C. 1976. Trans. Amer. Fish. Soc. 108:209-211.
- POWERS, C. D., C. F. WURSTER, R. G. ROWLAND. 1979. DDE inhibition of marine algal cell division and photosynthesis per cell. Pesticide Biochemistry and Physiology 10:306-312.
- SCHUBEL, J. R., H. H. CARTER and J. M. O'CONNOR. 1979. Effects of  $\Delta T$  on power plant entrainment mortality at Indian Point, New York. Special Report 19 of the Marine Sciences Research Center.
- SCHUBEL, J. R. and W. M. WISE (eds.) 1979. Questions about dredging and dredged material disposal in the Chesapeake Bay. Special Report 20 of the Marine Sciences Research Center.



#### 800 GATHER FOR ASLO '79

On 17-21 June, MSRC hosted the annual meeting of the American Society of Limnology and Oceanography. More than 800 people attended the conference. Scientific presentations included oral papers and poster sessions. The participants were entertained after-hours at a social mixer on the shores of Roth Pond, and a banquet held at the Colonie Hill in Hauppauge. The banquet speaker, Professor John Edmond of M.I.T., spoke on the importance of geothermal hot springs to the geochemistry of the oceans. Said Jeri Schoof, coordinator of the conference, "The meeting was a tremendous success not only for ASLO, but also for the State University of New York at Stony Brook."

#### PCBs IN DREDGED MATERIALS AND BENTHOS OF LONG ISLAND SOUND – KAREN CHYTALO

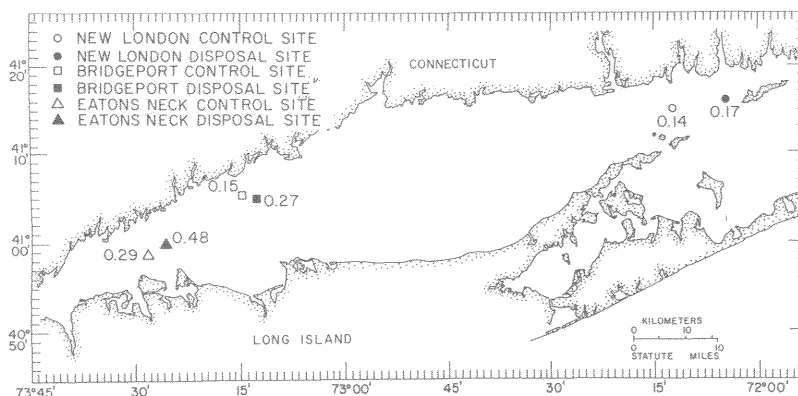
The management of polychlorinated biphenyls (PCBs) as pollutants of the marine environment requires an assessment of their sources, distribution, and routes and rates of transport. Long Island Sound was believed to be highly polluted with PCBs but confirmation was lacking. One possible point of entry of PCBs could be from the disposal of dredged materials. The occurrence and distribution of PCBs were examined in dredged materials at Long Island Sound disposal sites, in naturally accumulating sediments, and in benthic organisms. Three historical disposal sites (Eatons Neck, Bridgeport, and New London) were selected because of their histories, their locations and their sources of materials. For each, a control site was selected.

The vertical distribution of PCBs in the sediments and the partitioning of PCBs among different sediment size fractions appeared to be site dependent. In sediment cores, the concentration of PCBs increased and decreased randomly with depth. This was probably the result of bioturbation. There was no consistent partitioning of PCBs among the clay, silt and sand fractions. Clay particles have a greater ability to adsorb and retain PCBs than the silt or sand particles because of their greater surface areas.

Contaminated sediments can affect estuarine organisms directly or indirectly through food webs. Deposit feeders can be particularly affected because they come into direct contact with the sediment. The deposit-feeding polychaetes analyzed from Long Island Sound contained only trace amounts of PCBs (< 1 ppb). Thus, polychaetes are accumulating PCBs below the levels found in the sediments and are probably an insignificant route in transferring PCBs from the sediments to the estuarine food web.

The occurrence of PCBs was widespread throughout Long Island Sound surficial sediments. The concentration of PCB-Aroclor 1254 in fine-grained surficial sediments ranged between 0.06 to 0.80 ppm (dry weight), with an arithmetic mean of 0.25 ppm in 36 samples from 6 sites. The results indicated that sediments from disposal areas were slightly more contaminated with PCBs than sediments naturally accumulating in the corresponding control areas, but the differences were not statistically significant. There was a marked PCB gradient in surficial sediments with levels increasing from east to west. The levels of PCBs in the surficial sediments does not seem to be controlled by sediment characteristics but by sources of contamination (i.e. disposal areas, industrial activity). The sediment PCB concentration was poorly correlated to the total organic carbon, and to the sediment texture. If the sources of contamination were the same throughout Long Island Sound, these parameters could be important in controlling the concentrations of PCBs in sediments.

*Karen Chytalo, graduate student at MSRC. The work described here is part of her research for the M.S. degree, supported by the New York Sea Grant Institute.*



The Arithmetic Mean Concentrations (in ppm) PCBs in Sediments at the Six Long Island Sound Study Sites.

## MSRC ASSOCIATES

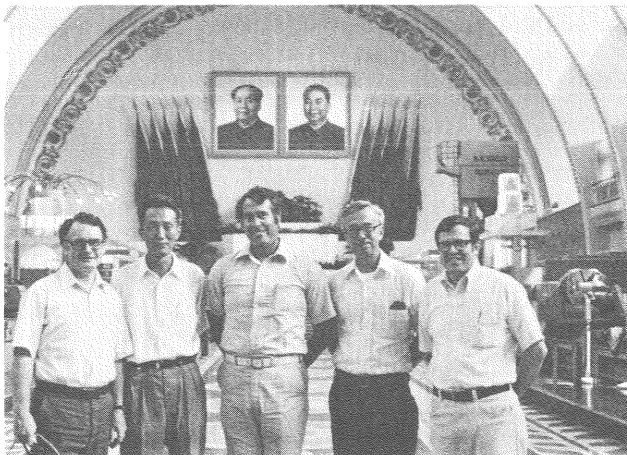
We welcome John E. Edinger and Richard S. Goodman as new MSRC Associates, and the Long Island Marine Contractors Association as a continuing member. We also welcome Dr. and Mrs. T. A. Pond as honorary lifetime members.

The second annual MSRC Associates Days will be held on 14-15 September 1979. On Friday evening the Associates will receive an overview of the Center's programs including an intensive look at the Great South Bay research project. On Saturday, MSRC Associates will participate in an oceanographic cruise aboard the R/V ONRUST in Great South Bay and in the Atlantic Ocean off Fire Island.

New MSRC Associates will be invited to participate in these activities. For information, contact Mrs. Jeri Schoof at (516) 246-6543.

## CHINA DELEGATION

T. A. Pond, Executive Vice President, SUSB; R. F. Jones, Director of International Programs, SUSB; Y. H. Kao, Professor of Physics, SUSB; C. Neff, Associate Vice Chancellor for International Programs, SUNY; and J. R. Schubel, Director of MSRC were in the Peoples Republic of China for a week in July to negotiate exchange programs with Fudan University, Jiao Tong University, Peking University and the Academia Sinca. Professor Schubel also met with the staffs of Shanghai Normal University's Institute for Coastal and Estuarine Studies and the 2nd Institute of Oceanography in Hangzhou. MSRC hopes to offer a course in China on estuarine processes in the Spring of 1980 and to collaborate with Chinese oceanographers in studies of the Yangtze and Yellow Rivers.



(L to R) R. F. Jones, SUSB Director of International Programs; Liu Keng Sheng, Fudan University; C. Neff, SUNY Associate Vice Provost for International Programs; Professor T. A. Pond; and Professor J. R. Schubel in the Peoples Republic of China in July.

## MSRC ACQUIRES FLAX POND LABORATORY

This summer MSRC assumed responsibility for the management and operation of the Flax Pond Laboratory, a facility located on a 142-acre salt marsh near Long Island Sound. The lab is being leased to SUSB by the New York Department of Environmental Conservation (NYDEC) for 25 years. Twenty-five percent of the space has been set aside for continued use by the NYDEC.

The Flax Pond Lab will be made available to all SUNY personnel. In addition to its office space, the lab contains 28 heavy-duty fiberglass sea tables that are equipped for a continuous seawater flow. This system meets a long-standing demand for a place in which to culture and store experimental plants and animals for extended periods of time. The lab complements other programs and services offered by MSRC, including a SUNY-wide teaching lab, a new doctoral program in coastal oceanography and a recently proposed SUNY-wide doctoral program in aquaculture.



F. G. Roberts, D. W. Pritchard and P. K. de Nyse inspect one of the sea tables in the newly-acquired Flax Pond Laboratory.



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