



Computer Facilities

Besides the mainframe and numerous student computer laboratories on main campus, **MSRC** has its own excellent computer facilities for students.

Libraries

One of the nation's largest libraries, the university's main library and the five branch science libraries contain over 1.6 million bound volumes and 2.5 million publications in microformat. **MSRC** has its own reference room with hundreds of periodicals and serials of primary importance to the marine sciences.

Flax Pond Laboratory

MSRC manages the Flax Pond Marine Environmental Laboratory and salt marsh for research and education. The laboratory, located five miles from campus on Long Island Sound, has a running seawater system with aquaria, seatables and an 800 square foot greenhouse for seaweed research.

Research Vessels

Along with a fleet of smaller boats, **MSRC** operates a 55 foot oceanographic vessel, the R/V ONRUST, one of the finest vessels of its kind. The ONRUST is outfitted for virtually every kind of oceanographic sampling.

STONY BROOK
STATE UNIVERSITY OF NEW YORK



Marine Sciences Research Center
State University of New York
Stony Brook, NY 11794-5000



**THE MARINE SCIENCES
RESEARCH CENTER
(MSRC) . . .**

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The University at Stony Brook Campus

Stony Brook's campus is located approximately half way between Manhattan and the pristine East End of Long Island. With Long Island Sound to the north of campus and Fire Island National Seashore on the Atlantic Ocean to the south, the Center is ideally located to study the Coastal Ocean, as well as to enjoy water sports of all kinds.

Resources and Facilities

MSRC is housed in four buildings on the South Campus, about a half mile from the main campus. While fully equipped for oceanographic studies and research, students also have access to the many main campus resources, including the Health Sciences Center and University Hospital. Departments in Stony Brook's basic sciences, math, computer sciences and college of engineering offer strong graduate programs. Thus, a wide range of advanced courses on main campus, as well as over 50 courses at **MSRC**, are available to our students. The neighboring Brookhaven National Laboratory also offers a resource of facilities and collaboration to university researchers.

Many studies at **MSRC** involve commercial and recreational fisheries, aquaculture, transportation, shoreline development, waste management and beach erosion and stabilization. **MSRC's** Fisheries Biology group and Living Marine Resources Institute (LIMRI) are working on problems in fisheries and aquaculture; the Waste Management Institute (WMI) and Coastal Ocean Action Strategies Institute (COAST) are working on problems in the management of the coastal zone and toxic contaminants and wastes.

The three institutes provide students with first-hand experience in resolving problems faced by environmental planners and managers. Special internships can also be arranged with a variety of county, state and federal environmental agencies and selected industries as part of a student's program.



... THE CHOICE FOR GRADUATE STUDIES

MSRC's graduate programs have several features that distinguish them from other leading institutions — features that attract students from around the world:

- The opportunity to be involved in leading research with a clear and persistent focus on the Coastal Ocean.
- A great deal of flexibility in choosing a course of study and the resources to carry out innovative research programs.
- Funding for nearly 95% of our students.
- Highly successful career placement.

Research Challenges for the Student

Emphasis in research and educational programs at MSRC is on the **Coastal Ocean**, where changes occur most dramatically . . . where winds and tides, sea level changes and population changes have the greatest impact on the marine environment.

Protecting the precious resources of the Coastal Ocean poses difficult but rewarding research challenges to the MSRC student.

Research Opportunities for the Student

MSRC's more than 40 full-time faculty and over 100 international graduate students explore a wide range of topics in their research projects — topics that take them from California to China, as well as throughout New York — to try to answer some of the most intriguing questions in the field today.

These researchers typically specialize in one of the oceanographic disciplines: biological, physical, chemical or geological. But much of the leading research today is multidisciplinary in nature and many of MSRC's scientists

explore problems that bridge more than one discipline. A few of their many projects are listed here:

- The effect of extreme sea level variations on sediment accumulations known as deep sea fans, which contain an important record of land climate, off both the Hudson and Amazon Rivers.
- Biological, chemical and geological processes in the sediments at the mouth of the Amazon River along the coast of Brazil.
- The biological, physical, climatological and chemical factors causing recurring blooms in Long Island bays of a previously unknown algal species, called the "brown tide."
- The biological mechanisms of bluefish larvae and the physical nature of the currents involved in the return of the larvae from the open sea to coastal habitats.

A detailed list of all our faculty research interests is included in the **Graduate Study at MSRC** booklet, available upon request.

Career Opportunities for the Graduate

Our graduates have been highly successful in finding jobs. Examples of some of the positions our graduates now hold are listed here:

- Professors at University of Hawaii; State University of New York at Purchase; University Austral of Chile; Inje, Pusan National, and Chung Nam Universities of Korea; Virginia Institute of Marine Sciences; University of Washington; University of Quebec; University of Delaware.
- President, Coastal Marine Resources, Inc.
- Oceanographer, National Aeronautics and Space Administration.
- Senior Paleontologist, Amoco Production Company.
- Assistant Director, New York Sea Grant Institute

THE GRADUATE PROGRAMS

The programs comprise a thorough interdisciplinary and rigorous approach to coastal oceanography and problem solving. **Students will be expected to acquire a broad understanding of the processes that characterize the Coastal Ocean.**

THE MASTER'S DEGREE IN MARINE ENVIRONMENTAL SCIENCE.

The Master's degree program is flexible and designed not only to provide students with the training required for successful pursuit of more advanced degrees, but also to equip them with the background needed for effective careers in coastal oceanography without additional training.

A research thesis is required, which must be an original work of publishable quality. The thesis may take any one of several forms. Most often it is a piece of laboratory or field research.

The thesis may also reflect the application of existing knowledge to develop a management strategy for an environmental problem; or it may be a critical assessment of the effectiveness of existing pollution abatement techniques or management strategies and an exploration of alternatives.

FEES AND FINANCIAL ASSISTANCE

Tuition for full-time graduate study as of Fall 1989 is \$2,150 per academic year for New York State residents and \$5,466 for non-residents. Fees normally range from \$50 to \$80 per year. Applicants should consult the current Graduate Bulletin for the fee structure, as well as general graduate school requirements.

ADMISSION

Since the foundation of oceanography is the basic sciences — physics, chemistry, biology and geology — the MSRC Master's and Ph.D. students in oceanography must, in addition to concentrating on the special problems posed for scientists who work at sea, progress to professional competence in the basic sciences.

THE Ph.D. DEGREE IN COASTAL OCEANOGRAPHY.

The doctoral program is designed to give students a professional command of oceanography at the highest level, and to provide them with the means to develop their capacity for creative research

Students must demonstrate the ability to formulate an important original problem and to address the problem effectively. Although oceanography requires an interdisciplinary course of study, the student must also achieve a profound knowledge of at least one basic science.

The doctoral program is designed for students who already have a Master's degree, but exceptional scholars in the Marine Environmental Science Program can have the requirement of a Master's degree waived.

A doctoral dissertation is required of all candidates.

University graduate and teaching assistantships (GA/TA) and research project assistantships (RPA) are available. Full tuition scholarships can accompany the award of a fellowship, a full GA/TA or a full RPA. Nearly 95% of our students are fully funded.

Admission is highly competitive. Minimum entrance requirements normally include a bachelor's degree in one of the basic sciences, introductory courses in other basic sciences and mathematics at least through calculus. An overall B average is required with significantly better performance in the student's major field.

Because the program is both interdisciplinary and innovative, exceptions can sometimes be made. Applicants exceptionally well-qualified by experience or training, but lacking certain undergraduate preparation, may be admitted on the condition that they remedy deficiencies after admission.

To obtain application forms, the university's Graduate Bulletin and the Graduate Study at MSRC booklet, contact:

**Director of Graduate Studies
Marine Sciences Research Center
State University of New York
Stony Brook, NY 11794-5000
(516) 632-8681**

or cut out and send in the post card included in this brochure.

