
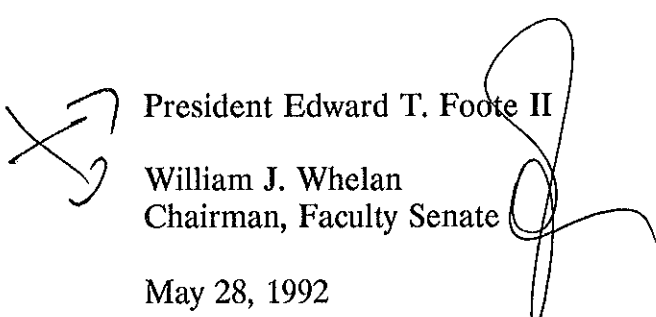




MEMORANDUM

TO:  President Edward T. Foote II

FROM:  William J. Whelan
Chairman, Faculty Senate

DATE: May 28, 1992

SUBJECT: Faculty Senate Legislation #91019(B) -
Title Approval of the Ocean Pollution Research Center

The Faculty Senate, at its meeting of March 30, 1992, voted to approve Faculty Senate Legislation #91019(B) - Title Approval of the Ocean Pollution Research Center, in accordance with requirements of Bylaw 6.6 of the *Faculty Manual*.

This legislation is now forwarded to you for your action.

6/01/92

Bill,

I approve.

Thanks.

WJW/b

cc: Provost Glaser
Dean Rosendahl, RSMAS
Dr. Mooers, OPRC Director

377

CAPSULE: Faculty Senate Legislation #91019(B) -
Title Approval of the Ocean Pollution Research Center

RESPONSE BY THE PRESIDENT:

DATE: 6/24/92

APPROVED: Yes 977

OFFICE OR INDIVIDUAL TO IMPLEMENT OR PUBLISH: Provost

EFFECTIVE DATE OF LEGISLATION: _____

NOT APPROVED AND REFERRED TO: _____

REMARKS (IF NOT APPROVED): _____



July 13, 1992

Professor Christopher N. K. Mooers
OPRC Director
RSMAS
Division of Applied Marine Physics
4600 Rickenbacher Causeway
Miami, FL 33149-1098

Dear Professor Mooers:

This is to inform you that the Faculty Senate approved the name of the Ocean Pollution Research Center, and that the Legislation [91019 B] has been approved by President Foote.

All good wishes for the success of the Center.

Yours sincerely,

William J. Whelan ca

William J. Whelan
Chair, Faculty Senate

WJW/ca

Attachment (*legislation*)

cc: Dean B. Rosendahl
Prof. G. Brass

Proposal for a Ph.D. Degree in Industrial Engineering (First Reading)

Dr. Brass, chair of the ad hoc review committee, summarized the deliberations of the committee and their request for additional comparative statistics on the Ergonomics Program. They also requested a letter from the Dean and the Provost approving the budget and the expected expenditures. Such a letter was received prior to the meeting. Dr. Khalil responded to questions about the computer facilities available for the program, the definition of the scope of industrial engineering, and whether this is a new program or an extension of the existing Ph.D. degree in Ergonomics. A request was made to amplify the list of schools nationally offering similar programs, as well as correcting the list of library holdings.

Proposal for a B.S. Degree in Computer Engineering (Second Reading)

Dr. Kamal Yacoub explained that the option of Computer Engineering in Electrical Engineering has now become a program and should have a degree which reads "Bachelor of Science in Computer Engineering". Dr. Yacoub responded to questions about the curriculum and the general degree requirements. Dr. Brass, as Vice Chair and chair of the ad hoc committee to review the program, presented the proposal as a *motion* from the Senate Council, with their recommendation and that of the ad hoc review committee. The *motion carried*.

NIEHS Marine and Freshwater Biomedical Center

This item was deferred to a later meeting.

Ocean Pollution Research Center

Dr. Brass presented the proposal for the Ocean Pollution Research Center and requested approval of the name of the Center as a Sponsored Center (Bylaw VI, 6.6). It was *moved* and seconded to approve the name of the Center. The *motion carried*.

Voting Rights of Research and Educator Faculty (Second Reading)

After discussion of Senate Legislation #91003(A) - Voting Rights for Research Faculty, it was agreed to vote separately on the following six items: 1) use of "Tenured Regular Faculty" vs "Regular Faculty"; 2) through 6) are the items listed in the proposal for Legislation #91003(A). It was *moved* and seconded to amend the first paragraph by substituting "Regular" for "Tenured" faculty. The *motion to amend failed* by a vote of 8 in

Matters Arising from the Minutes and not dealt with separately

Professor Brass, Vice Chair, introduced the matter of the Ocean Pollution Research Center and requested that the Center be considered a Sponsored Center in the Rosenstiel School. Any members of other schools participating will be given secondary appointments in RSMAS so that it will remain a center within the School and will require only the approval of the name. It was *moved* and seconded to amend the proposal as an Institute or Sponsored Center as outlined in Bylaw 6.6 of the *Faculty Manual* and, at some future time if the Center becomes a school-wide center, then a request will be made to make it an Independent Center. The *motion carried*.

Guidelines for Submitting a Proposal for a
New Graduate Degree Program

The Chair suggested that a checklist and instructions, including the approval of other schools having an interest in the program, be attached to the Guidelines to assist the review committees. It was *moved* and seconded to instruct the Chair to formulate the necessary addendum. The *motion carried*.

Proposed Ph.D. Degree in Neuroscience

Professor Robert Warren, Chair of the Senate ad hoc Review Committee, presented the report of the Committee, on the proposed Ph.D. degree in neuroscience, long with the Graduate Council's letter of approval and Dr. Kenneth Muller's response to the outside reviewers' report and the Committee's report. The basic science department chairmen and the School of Medicine School Council had also submitted letters of support. The College of Arts and Sciences must still discuss the proposal and submit their letter of support. Professor Warren stated that the basic issue of the process is that a non-departmentalized program is applying for degree-granting status. He also noted that the Graduate Council and the outside reviewers' committee both recommended that Dr. Muller, Chairman of the Steering Committee of the Neuroscience Program, should be given the title of Director. Vice Provost Sugrue indicated that he had received a letter from the School of Medicine committing to funding the program by providing secretarial assistance and two new stipends each year. Each student will receive support for two years. Professor Warren stated that a program training grant will be sought to supplement the University's support. It was *moved* and seconded to agenda the proposal, without recommendation from the Council, and accompanying letters for the scheduled Senate meeting on March 30. The absence of a recommendation was due to the Council not having all necessary approvals at hand. In response to a query about the oversight of the students' progress, Professor Warren stated



March 9, 1992

Dr. Garrett W. Brass
Department of Marine Geology
University of Miami School of Marine
And Atmospheric Sciences
N352 Grosvenor Building

Dear Garry:

I write as a reminder of our conversation on Friday, March 6 concerning the proposal for an Ocean Pollution Research Center that went to the Senate Council last month and which is supposed to be checked out with the College of Engineering. As we now realize, this will make yours a 6.5 Center, being multi-disciplinary, where you will have to check the proposal with everyone under the sun (Faculty Manual, page 46). If, on the other hand, you make it a 6.6 institute or sponsored center, then you only need the approval of the faculty of RSMAS and that I assume you already have. I leave it to you to decide how to proceed.

All the best.

Yours sincerely,

A handwritten signature in black ink, appearing to read "WJW".

W. J. Whelan
Chair, Faculty Senate

WJW/ca
Attachment

6.4. AN INTERDISCIPLINARY PROGRAM

An interdisciplinary Program is a specified group of courses offered by the faculties of two or more Departments or undepartmentalized Schools. Tenure may not be granted within or by an interdisciplinary Program. The Program curriculum shall consist primarily of courses offered under the authority of the faculty of the cooperating units. The Program may offer a small independent core of courses which are not in conflict with existing course offerings and are inappropriate for cross-listing, and are required of all students in the Program. All students in the Program shall be enrolled in one of the cooperating Departments or undepartmentalized Schools.

6.5. CENTER (INDEPENDENT)

An independent Center is a unit established primarily to coordinate and promote multidisciplinary research in an area specified in its Charter. Tenure may not be granted within or by an independent Center. The creation of an independent Center and its Charter shall be approved by the Academic Deans' Policy Council, the Faculty Senate, the President and the Board of Trustees upon recommendations from the faculties of the cooperating Departments or undepartmentalized Schools, the Research Council, the Graduate Council and the Academic Planning Committee. A copy of the Charter, and amendments thereto, shall be maintained in the files of the Faculty Senate.

6.6. INSTITUTE OR SPONSORED CENTER

An Institute or sponsored Center is a unit established within and by approval of the faculty of a single Department, School or College to coordinate and promote research, instruction, conferences, seminars, workshops, etc., within a specified area. Tenure may not be granted within or by an Institute or sponsored Center. The sponsoring unit faculty shall establish the operating rules, a copy of which shall be placed in the Faculty Senate files. The Faculty Senate and the President shall approve the name of the Institute or sponsored Center.

6.7. OFFICE (OR SERVICES)

An office is a unit established to provide support for the instructional and research activities of the Departments, Schools, Colleges, Institutes and Centers (e.g., Computer, Health, Admissions). After December 31, 1983, any tenured faculty member assigned duties in an Office or Services unit shall have tenure in an academic Department or undepartmentalized School. The above definition shall not abridge any of the rights, duties, and responsibilities currently enjoyed by the Guidance Center under By-law VII of the **Faculty Manual**.

Future of the Graduate School

The Chairman of the ad hoc committee of the Faculty Senate to consider the Future of the Graduate School, Prof. Daniel Baden, summarized the discussions on this topic. An ad hoc committee of the Graduate Council and Prof. Baden's committee will meet to study the question and consider recommendations attempting to iron out differences, and come to a consensus on what the future of the Graduate School should be. The RSMAS School Council, the Department of Geography and the Graduate School Council had recommended the retention of the Graduate School. The Council of the School of Medicine agreed with the recommendation of the Faculty Senate ad hoc Committee to abolish the School. After discussion it was agreed that the Faculty Senate ad hoc committee should meet with the ad hoc committee of the Graduate Council and report to the Senate on March 30.

Report of the Board of Trustees Meetings

Several Committees of the Board of Trustees have met. The Chair, Prof. Whelan, the Vice Chair, Prof. Brass, and other Senators had attended the meetings. The financial situation of the University was discussed during the meeting of the Finance and Audit Committee. Outside the Medical School, the financial situation appeared satisfactory. Indeed, the School of Law had generated a significant surplus. By contrast, the Medical School had severe financial problems. The Dean's budget of \$62 million had an overrun of \$13 million. Department budgets are being cut by 12%, and the cuts will continue in FY 93. The Fringe Benefits Committee was informed about the significant movement of employees out of the UMSM plan into AVMED. There will be an attempt to attract employees back to UMSM.

Approval for Marine and Freshwater Biomedical Sciences Center

It was *moved* and seconded to approve the Marine and Freshwater Biomedical Sciences Center subject to approval of the School Council of Medical School. The *motion carried*.

Matters from the Floor

It was *moved* and seconded to approve the Ocean Pollution Research Center subject to approval by the School Council of the School of Engineering. The *motion carried*.

The meeting adjourned at 5:40 p.m. following a brief Executive Session.



6 February 1992

From: Prof. Christopher N. K. Mooers, OPRC Director/RSMAS

To: Prof. William J. Whelan, Chairman, Faculty Senate

✓ Via: Prof. Garrett Brass, RSMAS Senator

Subj: Ocean Pollution Research Center (OPRC), Request for Designation as a University Center

1. Recently, the Ocean Pollution Research Center (OPRC) has been developed, and it has been approved by the RSMAS School Council as a RSMAS center. In the wake of the EXXON Valdez accident, creation of OPRC was motivated to position UM to become expert in scientific research in the topic area of oil spills in the event of a similar disaster occurring in our region. In the meantime, it has been established that there is substantial faculty interest, and initial funding has been identified.

2. Enclosed are the charter and an abbreviated prospectus for OPRC. (Please note that the charter will be amended to reflect our intent to add the College of Engineering Dean to the OPRC oversight group.)

3. Because the scope of the OPRC includes participation of faculty on the Coral Gables campus, and potentially elsewhere in Florida, we believe it is appropriate to seek designation of OPRC as a University-wide center. To avoid potential confusion, such designation will probably prove essential in dealing with sponsors in the future.

copy to:

Prof. Bruce R. Rosendahl, RSMAS Dean
Prof. Otis B. Brown, RSMAS Assoc. Dean for Research
Prof. Christopher G.A. Harrison, RSMAS School Council Vice Chair
Prof. Donald B. Olson, MPO/RSMAS

A handwritten signature in cursive script, appearing to read "Chris Mooers".

Abbreviated Prospectus for the Ocean Pollution Research Center

6 February 1992

INTRODUCTION. The Ocean Pollution Research Center (OPRC) at the University of Miami is concerned with performing long-term scholarly research (and contributing to graduate education) in the topic area of ocean pollution. Initially, the focus concerns technical matters dealing with oil spills, especially in the region of the Southeast U.S., plus the Gulf of Mexico and Caribbean Sea. However, the expertise developed can be applied to related problems; e.g., the discharge of polluted rivers and outfalls to the ocean, the effects of ocean dumping and dredging, and the development and evolution of toxic algal blooms. Similarly, the resultant expertise can be applied to other geographical regions as the demand and opportunities arise.

RESEARCH AREAS. The scope of OPRC includes two major areas: (1) the transport and dispersal of pollutants and (2) the fate and effects of pollutants.

OPRC will develop (in some cases), apply, and evaluate various schemes for observing and modeling the transport and dispersal of pollutants. For example, it is planned to explore the use of various remote sensing systems, including land-based doppler radar and airborne microwave remote sensing as well as satellite IR and visible imagery. The remote sensing results must be validated and complemented by in situ systems; such as, Lagrangian surface drifters and Eulerian moored current meter arrays.

As another example, it is planned to explore the use of alternative (e.g., sigma coordinates versus isopycnal coordinates; finite difference versus finite element) numerical oceanic and atmospheric circulation models to simulate and predict pollutant trajectories in a variety of realistic domains and under realistic conditions.

An objective is to integrate the observing and modeling systems through use of the scientific strategy termed four-dimensional data assimilation (4DDA). A further objective is to develop 4DDA systems which can operate in near real-time for demonstration of prototype capability to industry and governmental agencies with operational interests and responsibilities.

This program of development, application, and evaluation will be grounded in periodic field experiments to validate the evolving capability. These field experiments will be conducted in a mode which is highly visible to sponsors in order to focus and crystalize the research program, and to facilitate the technology transfer opportunities.

Altogether, the "transport and dispersal aspects" of OPRC (i.e., the observing, modeling, and 4DDA system elements) will be very computer-intensive and will require a high level of information management, including high-performance computing, database management systems, and animated computer graphics.

The "fates and effects" aspects of the OPRC research program are less well-defined at this stage. However, they will include consideration of the chemical and biological degradation of ocean pollutants, and of the impact of pollutants on marine ecosystems and sediments. For example, the examination of the historical record contained in corals may be used to assess the impact of World War II oil spills on coral reefs in order to provide guidance for anticipated impacts from contemporary spills. As another example, the interaction of oil with marine sediments may be studied in order to determine how deeply and irreversibly oil penetrates marine sediments, and possibly to find means to cleanse sediments.

SPONSORSHIP. Over the past year-and-a-half, mutual interests have been explored with several potential sponsors, including philanthropists, oil companies, and federal agencies. The estate of a private donor has provided a "grub stake" for initiating OPRC. An oil company has indicated intent to contribute, and the US Coast Guard is planning to provide substantial funding. The Development Office is working to form a corporate consortium for OPRC. Other federal and state agencies are being contacted. Overall, the general direction has been set, preliminary proposals are in hand from several faculty, substantial funding is in immediate prospect, and initial research should commence within the next few months.

CHARTER for the

FLORIDA/CARIBBEAN OCEAN POLLUTION RESEARCH CENTER

MISSION. The Florida/Caribbean Ocean Pollution Research Center will conduct research and development to facilitate the monitoring, assessment of impacts, and remediation of ocean pollution in the geographic province extending from the EEZ off Cape Haterras to the Bahamas to the Florida Keys through the Gulf of Mexico and the Caribbean Sea. It will supplement and complement the operational, applications, and environmental management activities of state, federal, and international entities, and of commercial and industrial enterprises, through conducting scholarly applied research and development of new understanding, technologies, and methodologies which can improve society's ability to deal with ocean pollution. An important byproduct will be the involvement of students, especially at the graduate level, in the research and development projects as part of the process of educating the next generation of coastal environmental researchers and managers. In due course, the international dimension in the Caribbean, Mexico, Cuba, Central America, and Latin America of the Center will be developed through IOCARIBE, etc.

MODUS OPERANDI. The FLACAROPRC will seek to contribute to the long-term scientific stewardship of the ocean environment of the Florida/Caribbean region by facilitating research and development activities between interested faculty and sponsors. It will have no permanent faculty of its own; however, it will have designated participating faculty, based on their principal investigator status, and it may make recommendations on faculty recruiting priorities. It may have a clerical, administrative, and technical staff to support the activities of the Center and its participating faculty. Participating faculty are not limited to RSMAS but may include UM Main Campus and other Florida and Gulf Coast faculty functioning as principal investigators through the Center. The Operating Committee, described below, will designate participating faculty. Later, mechanisms for international faculty affiliates will be developed.

GOVERNANCE. The Dean of RSMAS will designate the Director of the Center as a collateral faculty duty, who will have a renewable term of three years. He will also appoint an Advisory Council consisting of three RSMAS faculty representatives and at least three external sponsors and agency representatives. The Advisory Council will provide oversight by reviewing annually the progress and plans of the Center. The Advisory Council will be chaired by the Assoc. Dean for Research, who will also chair the Operating Committee, which will consist of the Director, the Dean, the Vice Chair of the School Council, and one faculty member at large. The Operating Committee will review proposed major funding decisions, and it will meet at the call of either the Director or its Chair.

CNKM/16 JAN 92



Ref: 28/DBO/gi

1 March 1991

Dear colleague,

This letter is to inform you of a new initiative within the school to create a Florida/Caribbean Marine Pollution center. Many of you are probably familiar with the steps that have led up to this stage in the center's development. To make the background brief, to date we have garnered approximately half a million dollars as startup funding and produced a proposal to increase this substantially in the near future. There have also been aggressive steps on the state and national level toward securing resources for such an endeavor.

As the attached document spells out, we are interested in setting up a set of working groups to explore the intellectual evolution of the center. I would appreciate comments on the document and expressions of interest in the various working groups. I have talked to several people about chairing various groups and will approach various others in the upcoming weeks. I would like initial reports from all of the groups by sometime in May.

An initial meeting of interested faculty is planned for March 14 at 11:00 a.m. in the auditorium.

In talking with your colleagues elsewhere and especially the press, please be prudent. We are not a center until approved by the faculty senate and the board of trustees. This is the phase where we prepare for the arguments for creation of the official Center. While we "spin-up" on our capabilities and the problem we are setting out to attack we are also somewhat vulnerable on the exterior and would like to choose our own timing for a "coming-out".

Sincerely,

A handwritten signature in cursive script that reads "Donald B. Olson". The signature is written in black ink and is positioned above the typed name and title.

Donald B. Olson
MPO Professor

Florida/Caribbean Marine Pollution Research Center

1 Introduction

A new initiative at the University of Miami, Rosenstiel School of Marine and Atmospheric Science at the University of Miami is the Florida/Caribbean Marine Pollution Research center. At present the center is in the planning stages and has a target date for moving towards formal center approval in 1991-92 academic year. The center is currently being organized with startup funds from a private bequest and has a proposal for industry support pending. Several oil companies with large local offices have been approached with the idea of forming a founding industry support group. An initial liaison with the cruise industry is also underway. The center also hopes to gain support from local, state and federal government appropriations. The plan is to use this triad of private, industry and government support to build a long-term research center dedicated to the problem of oil spills in the tropical/subtropical environment.

2 Goals

While it is important not to provide an overly restrictive set of goals, nor an unreasonably over-optimistic set for that matter, we are approaching industry with the following areas in mind.

- 1) Provide long-term, sustained research and education in the prevention, real-time tracking and prediction of spill dispersion, spill remediation, and impact assessment.

- 2) Develop techniques based on state of the art ocean models and the remote sensing techniques needed to initialize them in order to improve the prediction of a spill's spread in the environment.

- 3) Produce impact assessment protocols which allow a timely, cost effective response to a spill without the problems of massive under- and over-sampling that have plagued many past incidents.

- 4) Serve as a focus for research needed to make decisions concerning dispersant usage, containment equipment deployment and bio-remediation of spills.

- 5) Study routing and traffic in the Caribbean and provide feedback to industry and government on vulnerable regions and means for minimizing risk.

3 Rationale for the Center

The initial focus of activities will concentrate on regional problems in relationship to oil spills. Florida, with the second longest coast line after Alaska, is extremely vulnerable to spills. Traffic patterns along the Florida coast between the Gulf of Mexico and the Northeastern U.S. together with the substantial handling of petroleum products within Florida harbors makes the question to ask not if but when a spill will occur. This problem is further complicated by conditions in the Caribbean. The Caribbean has both major super-tanker traffic and large refinery sites superimposed on a high dependence of local economies on tourism.

In general, lessons learned in the Alaskan Valdez spill and other highly publicized accidents such as the Torrey Canyon and the Amoco Cadiz spills provide little guidance for the tropical/subtropical setting. Therefore, it is prudent to begin an effort to develop the necessary tools and materials for dealing with a spill in this region. As the center matures, its influence hopefully will expand throughout the tropics to become a major contributor to the spill issue internationally.

Planning for the research portfolio of the center is currently underway. Initial discussions suggest an emphasis on techniques and background infor-

mation bases required for rapid oil spill response and subsequent damage assessment. Three areas of particular need seem to be: 1) dependable real-time spill tracking and trajectory prediction, 2) pre-determined evaluation of index species and 3) biochemical techniques for evaluation of the impact of a spill and some additional research on technologies for spill remediation such as chemical or biological dispersants. The goal here is to develop operational tools to handle anticipated spills and assess their levels of performance. For example, a combination of remotely sensed oil distributions with inexpensive flow monitoring devices can be envisioned as providing initial conditions for dispersion models for predicting oil migration. Similar techniques are required for ground water. On the damage assessment side an important need is a realistic evaluation of what should be sampled, how many samples are needed, and means of providing controls for experimental estimates of impact over time. This evaluation should provide a standard set of measurements which are both documented in terms of scientific, peer reviewed papers and accepted by the principles involved. The center should also provide the environment in which new protocols, index species and laboratory techniques can be developed and tested.

The center is being planned as a multi-disciplinary entity which reports to the dean and a board representative of the sponsoring organizations.

Initial activities will focus around working groups aimed at 1) movement and dispersal of oil in inland waters and the marine realm, 2) spread of petroleum in ground-water and reworking of spilled oil in the near shore sedimentary systems, 3) biochemical and ecosystem assessments of the impact of oil in the environment and 4) providing an underlying statistical background for the efforts in terms of transportation routing and evaluation of impact based on techniques derived from the other groups.

I have tentatively approached several faculty about their contribution to these working groups and hope to talk to those I have not been in contact with in the near future. It is likely that in each case the working groups will be further split into subgroups to facilitate coverage of specific topics. Examples of this might be modeling of spill dispersion split into a coastal ocean modeling group, an estuarine group and a group tasked with providing better models for the coupling of oil and water. On the biological side, it makes sense to split impact assessment efforts between coastal (mangrove, etc.), coral reef and fisheries systems. In all cases I plan to encourage considerable interaction between groups to maintain a multi-disciplinary approach to the problem.

4 Funding

It is clear that the intent of the center is to provide a needed service to our community in the best way we know. The center will strive to provide an additional source of funding for the school which can augment our traditional sources. It is not the intent at the onset that every working group will be funded. In fact, not until each group provides its first perspective report with a set of proposed goals will funds be made available. Total expenditures, of course, depend upon raising funds, which in turn depend on the abilities of the dean, development and myself to garner them. This is in turn directly tied to the ability of the working groups to provide material to sell to the funding sources. When it comes to government sources we expect to act as a resource center and clearing house for proposals. It is hoped that we can provide matching funds, background materials, and an overall program within which such proposals are fostered.