MODEL for a
COLLABORATIVE RESEARCH PROPOSAL

Permission to reprint the proposal on the following pages was kindly given by

Ron Kiene, University of South Alabama
and
David Kieber, SUNY College of Environmental Science and Forestry

Recent PhDs are increasingly embarking on interdisciplinary research careers which involve collaborations with colleagues at different institutions. Developing collaborative proposals for funding is a particularly difficult task and many grads are not adequately prepared for this during their time as graduate students. For this reason, it was thought that posting a good example of a collaborative research proposal would be useful.

The proposal on the following pages was identified as being a particularly strong collaborative proposal during a recent round of proposal review within the National Science Foundation's Antarctic Program.

While each agency requires different forms and has its own requirements, most of the ingredients for an outstanding proposal are sufficiently universal that the proposal on the following pages should provide a sound starting point.

For more tips on proposal development, visit
http://www.nsf.gov/od/opp/antarct/workshop/tipsProposal.cfm

NSF proposals are confidential in nature
and
cannot be distributed without the permission of the PI's.

I want to particularly thank **Ron Kiene** and **David Kieber** for their willingness to display their proposal in such a public forum. It is a wonderful reminder that aquatic scientists are part of an extended community of friends and colleagues.

Note: NSF- or institution-specific information and forms have been deleted to protect confidentiality and reduce the size of this file.

COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

PROGRAM ANNOUNCEMENT/SOLICITATION NO./CLOSING DATE/if not in response to a program announcement/solicitation enter NSF 02-2

NSF 02-086 **06/03/02**

FOR CONSIDERATION BY NSF ORGANIZATION UNIT(S) (Indicate the most specific unit known, i.e. program, division, etc.)

OPP - ANTARCTIC BIOLOGY & MEDICINE

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NSF PROPOSAL NUMBER

0230497

DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	DUNS# (Data Universal Numbering System)	FILE LOCATION

EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN)

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☐ A RENEWAL
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IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES ☐ NO ☒ IF YES, LIST ACRONYM(S)

NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE

University of South Alabama

AWARDEE ORGANIZATION CODE (IF KNOWN)

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Mobile, AL. 36688

NAME OF PERFORMING ORGANIZATION, IF DIFFERENT FROM ABOVE

PERFORMING ORGANIZATION CODE (IF KNOWN)

ADDRESS OF PERFORMING ORGANIZATION, IF DIFFERENT, INCLUDING 9 DIGIT ZIP CODE

IS AWARDEE ORGANIZATION (Check All That Apply)
(See GPG II.C For Definitions) ☐ FOR-PROFIT ORGANIZATION ☐ SMALL BUSINESS ☐ MINORITY BUSINESS ☐ WOMAN-OWNED BUSINESS

TITLE OF PROPOSED PROJECT **Collaborative Research: Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea, Antarctica**

REQUESTED AMOUNT	PROPOSED DURATION (1-60 MONTHS)	REQUESTED STARTING DATE	SHOW RELATED PREPROPOSAL NO., IF APPLICABLE
$ **316,556**	**36** months	**04/01/03**	

CHECK APPROPRIATE BOX(ES) IF THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW

☐ BEGINNING INVESTIGATOR (GPG I.A)
☐ DISCLOSURE OF LOBBYING ACTIVITIES (GPG II.C)
☐ PROPRIETARY & PRIVILEGED INFORMATION (GPG I.B, II.C.6)
☐ HISTORIC PLACES (GPG II.C.9)
☐ SMALL GRANT FOR EXPLOR. RESEARCH (SGER) (GPG II.C.11)
☐ VERTEBRATE ANIMALS (GPG II.C.11) IACUC App. Date _____
☐ HUMAN SUBJECTS (GPG II.C.11)
Exemption Subsection _____ or IRB App. Date _____
☐ INTERNATIONAL COOPERATIVE ACTIVITIES: COUNTRY/COUNTRIES INVOLVED (GPG II.C.9)
_____
☐ HIGH RESOLUTION GRAPHICS/OTHER GRAPHICS WHERE EXACT COLOR REPRESENTATION IS REQUIRED FOR PROPER INTERPRETATION (GPG I.E.1)

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Department of Marine Sciences

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COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

PROGRAM ANNOUNCEMENT/SOLICITATION NO./CLOSING DATE/if not in response to a program announcement/solicitation enter NSF 02-2

NSF 02-086 **06/03/02**

FOR CONSIDERATION BY NSF ORGANIZATION UNIT(S) (Indicate the most specific unit known, i.e. program, division, etc.)

OPP - ANTARCTIC BIOLOGY & MEDICINE

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IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES ☐ NO ☒ IF YES, LIST ACRONYM(S)

NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE

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IS AWARDEE ORGANIZATION (Check All That Apply)
(See GPG II.C For Definitions) ☐ FOR-PROFIT ORGANIZATION ☐ SMALL BUSINESS ☐ MINORITY BUSINESS ☐ WOMAN-OWNED BUSINESS

TITLE OF PROPOSED PROJECT **Collaborative Research: Impact of Solar Radiation and Nutrients on Biogeochemical Cycling of DMSP and DMS in the Ross Sea, Antarctica**

REQUESTED AMOUNT	PROPOSED DURATION (1-60 MONTHS)	REQUESTED STARTING DATE	SHOW RELATED PREPROPOSAL NO., IF APPLICABLE
$ **338,730**	**36** months	**04/01/03**	

CHECK APPROPRIATE BOX(ES) IF THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW

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☐ HIGH RESOLUTION GRAPHICS/OTHER GRAPHICS WHERE EXACT COLOR REPRESENTATION IS REQUIRED FOR PROPER INTERPRETATION (GPG I.E.1)

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A. PROJECT SUMMARY

COLLABORATIVE RESEARCH: IMPACT OF SOLAR RADIATION AND NUTRIENTS ON BIOGEOCHEMICAL CYCLING OF DMSP AND DMS IN THE ROSS SEA, ANTARCTICA

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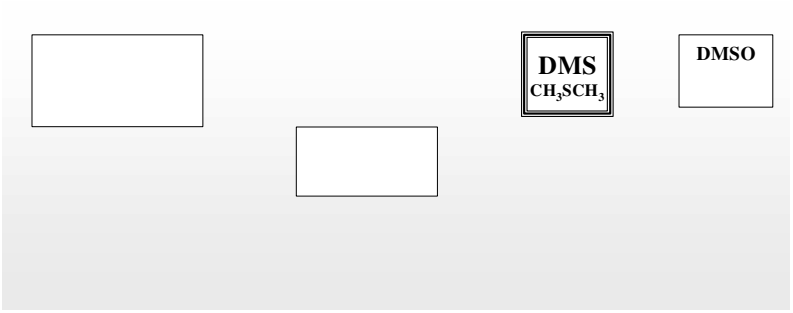
A	Project Summary (not to exceed 1 page)		
		1	
		0	
	NSF Support) (not to exceed 15 pages) **(Exceed only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)**		
D	References Cited		
E	Biographical Sketches (Not to exceed 2 pages each)	2	
F	Budget (Plus up to 3 pages of budget justification)	5	
G	Current and Pending Support	1	
H	Facilities, Equipment and Other Resources	1	
I	Special Information/Supplementary Documentation	2	
J	Appendix (List below.) **(Include only if allowed by a specific program announcement/ solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)**		
	Appendix Items:		

*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is numbered consecutively.

C. PROJECT DESCRIPTION

RESULTS FROM PRIOR NSF SUPPORT

1. University of South Alabama (RPK).


DMS
CH_3SCH_3
DMSO

Station number

a

a

a

Phaeocystis

Phaeocystis

Phaeocystis

Nutrient impacts on DMSP production and cycling.

Fraction of added ^{35}

Effects of light on bacterial processes in the DMSP/DMS cycle.

Unique aspects of the Ross Sea environment with respect to DMSP/DMS cycling.

Phaeocystis anarctica

P. antarctica

1. ***Determine effects of light intensity and quality on phytoplankton DMSP production and lyase activity***.

a

3. *Determine DMS photolysis rates.* *in situ*

μ

in
situ
V h talo

ms in preparation

in situ

μ

Phaeocystis

4. ***Determine yield of DMS from DMSPp in algae and bacteria, and effect of surface mixed layer (dmixe(oyie)(1)-h).(m***

Phaeocystis

a *a*

Phaeocystis

a

6. Determine contribution of DMSP cycling to carbon budget in the Ross Sea

Phaeocystis

a

Phaeocystis

TIMING, CRUISE LOGISTICS AND COORDINATION WITH COLLABORATORS

Nathaniel B. Palmer

Phaeocystis

–

DMS turnover rate constant.

Lase activity and fluorescence.

µ

Light measurements.

Miscellaneous measurements.

COLLABORATION AND RESEARCH RESPONSIBILITIES

D. REFERENCES

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MS. & Ph.D. (1981-86). Prof. Douglas G. Capone, University of Southern California
Post-Doctoral. (1986-87). Prof. Barrie F. Taylor, RSMAS University of Miami, Miami Fl.

Jose Gonzalez (Teneriffe), Mark Hines (Alaska), Colin Roessler (Bigelow), Bill Sunda (NMFS), David Kieber (SUNY Syracuse), Patricia Matrai (Bigelow), Mary Ann Moran (Georgia), Maurice Levasseur (Canada), Mikhail Zubkov (PML, UK), Rafel Simó (I.C.M. Spain), Carlos Pedros-Alió (I.C.M. Spain).

Glen Miley (M.S. 1995), Lynn Hoffmann Williams (M.S. 1996), Brian Jones (M.S. 2000), Ted Stets (M.S. 2002), Rita Peachey (Ph.D. expected Fall 2002), Jody Bruton (Ph. D. expected, Fall 2002), Haykubun Harada (Ph.D. In progress), Daniel Husband (Ph.D. In progress).

Michael Osland (REU, Willamette University), Melissa Aikens (REU, Bowdin College), Anne Marie LeBlanc (REU, U. of Alabama), William Ward (U. of Alabama), David Parker (REU, U. Florida).

ēb: http://www.esf.edu/chemistry/īēber/īēber.htm

Education:

Ph.D. University of Miami, Rosenstiel School of Marine and Atmospheric Science, Chemical Oceanography, 1988
M.S. University of Delaware, College of Marine Studies, Marine Science, 1983
B.S. Rutgers University, Cook College, Environmental Studies with minors in Chemistry and Mathematics, 1980

Professional Experience:

2002-present. Professor, Chemistry Department, State University of New York, College of Environmental Science and Forestry.
1997-2002. Associate Professor, Chemistry Department, State University of New

Synergistic Activities:

Developed experiments for Instrumental Analysis class that focused on Environmental Chemistry; Organized and chaired symposium on aquatic photochemistry at the American Chemical Society (ACS) PACIFICHEM 2000 meeting; SUNY ESF coordinator for ACS Project SEED--summer research experience for economically disadvantaged students; Member of the Education Committee for the Syracuse chapter of ACS; NSF-sponsored workshop participant to assess the future of Chemical Oceanography research in the United States.

Budget Justification - Collaborative Research: Impact of solar radiation on the biogeochemical cycling of DMSP and DMS in the Ross Sea, Antarctica

Ronald P. Kiene, PI, Department of Marine Sciences, Universitybiogeochem

h 50% release during the academic year for research activities. He requests 1 month of summer salary in the first year of the project and 2 months in Y's 2 & 3. The PI will supervise the full time post-doc and the full time graduate student throughout the calendar year. This project represents 16.7% of the PI's research effort (2 mo./y).

Salary support for a full time post-doctoral associate is requested for each of the first two years of the project. During the time before the first cruise the post-doc will be carry out preliminary experiments and refine methods for use during the Antarctic cruises, and between cruises they will be involved in data processing and interpretation. We are very fortunate to have in place an outstanding post-doc, Dr. Doris Slezak, who joined my group in February 2002 (see her C.V. in Supplementary Documents). Dr. Slezak has extensive experience with the DMSP/DMS cycle and in particular she was among the first to study the influence of UVR on this cycle. She has already participated on a research cruise with my group and become proficient with the use of the ^{35}S-DMSP/DMS tracers. Her current funding is cobbled together from several sources and lasts only through June 03.

Three years of stipend support ($17,000 in Y1, $17,680 in Y2 and $18, 387 in Y3) is requested for a full time Ph.D. student who will work directly on this project as part of their dissertation research. .

Support is also requested ($3360 in Y1) to support undergraduate students to work on this project either during the summer, or if possible, on the Antarctic cruises. Fringe benefits are set at 25% of salaries, and apply only to the PI salaries; students and post-docs salaries are not subject to fringe-benefits at Univ,. South Alabama. Salaries are incremented 4% per year in years 2 & 3.

Equipment – No equipment is requested as part of the regular NSF budget.

the vel 00 in Y1, $3,640 in Y2) is budgeted for the hotel and subsistence costs associated with travel to the point of departure of the N.B. Palmer (Lyttleton New Zealand) and for the return trip to the US from McMurdo Station. These costs are estimated at $125 per person per day x 7 days total travel x 4 persons = 3,500. Travel costs in years 2 & 3 are incremented 4% over the previous year to account for inflation. No foreign travel is requested for year 3 because there will not be a field expedition that year. Air travel associated with the Antarctic research will be arranged and paid for by the Antarctic Services Contractor (Raytheon).

Materials and Supplies – We request $5500, $5,720and $4,000 in years 1, 2 & 3 for supplies needed to carry out research during the year in preparation for the Antarctic cruises and to process samples after the cruises. These estimates include the costs for include high purity compressed gases to run two independent GC-FPD systems, plus independent HP-Helium sparging lines used for stripping volatile sulfur compounds, radioisotopes to be used in the synthesis of high specific activity 35S-DMSP and 14C-DMSP, parts and consumables for the gas chromatograph systems. The amount for supplies is incremented 4% for year 2 and reduced to $4,000 for year 3 to reflect the lack of field effort that year. Additional supplies will be provided to this project for use on the cruises by the Antarctic Services Contractor.

Other Direct Costs – *Shipping costs* $2,000, and $2,080 in years 1, & 2 are requested for costs associated with shipping research equipment to and from the US west coast (Los Angeles) where the equipment will move into the Antarctic Support network.

F. BUDGET JUSTIFICATION AND PERSONNEL (D. J. Kieber)

Personnel. Two graduate students will participate in the first two years of the proposed research. The PI requests two months of summer salary during the first two years of the project. Graduate student will be responsible for the iron measurements and experiments, and the other student will be responsible for the DMS photolysis experiments including action spectra studies. Tuition, which is listed under "Other," is requested for both graduate students in years 1-3 at $5600/yr. From 1-3 undergraduate chemistry majors will be involved in the research effort as part of their senior research. The undergraduates will assist in the set up and execution of the various experiments that are proposed and they will be responsible for conducting specific measurements during the cruises (e.g., nutrients, chlorophyll, etc as needed by the research team).

Travel and Shipping. Funds are requested to cover (1) travel expenses for the PI and the students to present results at one scientific meeting per year in each year of this project (ca. $2000/yr) and (2) travel/per diem costs for four personnel to participate in the Ross Sea cruises. This foreign travel ($3,500 in Y1, $3,640 in Y2) is budgeted for the hotel and subsistence costs associated with travel to the point of departure of the N.B. Palmer (Lyttleton New Zealand) and for the return trip to the US from McMurdo Station. These costs are estimated at $125 per person per day x 7 days total travel x 4 persons = 3,500. Travel costs in years 2 are incremented 4% over the previous year to account for inflation. No foreign travel is requested for year 3 because there will not be a field expedition that year. Air travel associated with the Antarctic research will be arranged and paid for by the Antarctic Services Contractor (Raytheon). Funds are also requested to cover the cost of shipping equipment and supplies to and from the PI's home laboratory to California (ca. $2,000/yr 1 and 2). Shipping costs are listed under "Other", and are based on estimates from the PI's previous field studies in Antarctica.

Supplies, Equipment and Maintenance. Funds are requested for supplies needed for this project including high purity chemicals, high purity gases, liquid nitrogen, Teflon and stainless steel fittings, Teflonware, quartz and borosilicate glassware, quartz spectrophotometric cells, syringes and pipettes, computer disks, computer hardware and software, water purification cartridges, sampling filters, replacement lamps for the irradiation systems, shop services (e.g., fabrication of glassware), etc. Funds for equipment maintenance are also requested, especially for unforeseen breakdown of computer hardware (boards, drives, etc.) The total supply money requested is based on a conservative estimate of the supplies needed to properly conduct the experiments and multiple analyses that are outlined in this proposal. During the field studies, $4,500/yr in supply monies is requested. In year 3, $4,000 is requested to process samples after the second cruise. Additional supplies will be provided to this project for use on the cruises by the Antarctic Services Contractor.

Medical and Dental Exams. Costs associated with medical and dental exams, listed under "other," required for travel to Antarctica, are budgeted at $500 per person per year ($2000 total for 4 persons in Y1). These costs are incremented 4% in Y 2 to account for inflation.

Current and Pending Support

(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this informa	

Current and Pending Support

(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: **Ronald Kiene**

Other agencies (including NSF) to which this proposal has been/will be submitted.

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: **Collaborative research: Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea, Antarctica - THIS PROPOSAL**

Source of Support: **NSF-Offoce of Polar Programs**

Total Award Amount: $ **316,556** Total Award Period Covered: **04/01/03 - 03/31/06**

Location of Project: **University of South Alabama**

Person-Months Per Year Committed to the Project. Cal: **0.00** Acad: **0.00** Sumr: **2.00**

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project:

Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project:

Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project:

Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project:

Person-Months Per Year Committed to the Project. Cal: Acad: Summ:

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*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

Current and Pending Support

(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided fo *Transfer of Support

Project/Proposal Title: Impact of Photochemistry on Carbon Cycling in the Sea

Source of Support: National Science Foundation
Total Award Amount: $257,544 Total Award Period Covered: 05/01/01 – 04/30/04
Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, NY
Person-Months Per Year Committed to the Project. Cal: Acad: 1.35 Sumr: 2.00

Support: ☐ Current Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Collaborative Research: Production and Dynamics of DMSP and Related Compounds in Response to Oxidative Stress in Marine Phytoplankton

Source of Support: National Science Foundation
Total Award Amount: $276,525 Total Award Period Covered: 07/01/02 – 06/30/05
Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, NY
Person-Months Per Year Committed to the Project. Cal: Acad: 0.63 Sumr: 1.00

Support: ☐ Current Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Total Award Amount: $309,022 Total Award Period Covered: 01/01/03 – 12/31/07
Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, NY
Person-Months Per Year Committed to the Project. Cal: Acad: 0.63 Sumr: 1.00

Support: ☐ Current Pending ☐r each inverbon Dioxide from Dissolved Organic Matter: A New Approach t

Constraining a Major Term in Marine Carbon Cycling

Source of Support: Woods Hole Oceanographic Institution / National Science Foundation
Total Award Amount: $48,620 Total Award Period Covered: 09/02/04 – 08/31/05
Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, NY
Person-Months Per Year Committed to the Project. Cal: Acad: 0.45 Sumr:

Support: ☐ Current Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Collaborative Research: Impact of Solar Radiation and Nutrients on Biogeochemical Cycling of DMSP and DMS in the Ross Sea, Antartica

Source of Support: National Science Foundation
Total Award Amount: $338,730 Total Award Period Covered: 04/01/03 – 03/31/06
Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, NY
Person-Months Per Year Committed to the Project. Cal: Acad: 0.75 Sumr: 2.00

*If this project has previously been funded by another agency, please list and furnish information for immediately proceeding funding period.

FACILITIES. EQUIPMENT & OTHER RESOURCES

FACILITIES:

Computer:

The PI has 5 pentium PC computers and the laboratory is on a LAN that is also connected to the internet via a T-1 line. These computers are available for students and technicians and the PI and also will be used for data collection by the instruments. Internet access is available on all the computers. The DISL has adequate computer, printer, copier and technical support for research activities.

Office:

The PI has adequate office space to carry out the proposed research.

Other: _____

MAJOR EQUIPMENT: List the most important items available for this project and, as appropriate, identify the location and pertinent capabilities of each.

R. Kiene's laboratory has 2 Shimadzu gas chromatograph systems (GC-9A and 14A) each equipped with a flame photometric detector for DMS analysis. An FID is also available for hydrocarbon analysis on the GC-14A. A new GC-MS system (Shimadzu QP 5000 with EI) is also available. A Waltz Water-PAM fluorometry system has just recently been obtained to aid in characterizing photosynthetic parameters of natural waters. In addition, Kiene's lab has 2 HPLC systems, one of which is capable of binary gradient control and peak data processing (E-Lab). Available detectors include an ISCO V^4 UV/Vis monitor and a Shimadzu RF-535 Fluorescence detector. A Dionex DX-120 ion chromatograph is available for anion analysis. Other equipment includes a Gilson fraction collector, Beckman Microcentrifuge, Turner TD-700 benchtop fluorometer, Visi-prep solid phase extraction manifold, Keithly picoammeter, Marhauzer motorized micromanipulator, pH meter, Mettler DL-21 autotitrator with redox electrode, Eppendorf microcentrifuge, HP 8453 diode array spectrophotometer and several water baths.

OTHER RESOURCES: Provide any information describing the other resources available for the project. Identify support services such as consultant, secretarial, machine shop, and electronics shop, and the extent to which they will be available for the project. Include an explanation of any consortium/contractual/subaward arrangements with other organizations.

The Dauphin Island Sea Lab (DISL) maintains a community-use instrument lab equipped with a Shimadzu TOC-5000 total carbon analyzer, Carlo Erba CHN analyzer, Dionex ternary gradient HPLC and a Shimadzu scanning spectrofluorometer. There are also facilities (Skalar Instruments) for autoanalysis of inorganic nutrients (NO_3^-, NH_4^+, PO_4^{3-} etc). A dedicated technician is available to assist with running samples on these instruments and costs for analysis are charged on a per-sample basis.

H. FACILITIES, EQUIPMENT AND OTHER RESOURCES (D. J. Kieber)

Department, including Fourier transform NMR spectrometers (e.g., 500 MHz), two-photon and picosecond laser spectrometers, and a femtosecond laser system; all available on a service basis.

BIOGRAPHICAL SKETCH (Doris Slezak)

Post-Doctoral Associate
Department of Marine Sciences
University of South Alabama e-mail: dslezak@disl.org

Five relevant publications:

Slezak D., & G.J. Herndl (subm.): Impact ultraviolet and visible radiation on the cell content and concentration of dimethylsulfoniopropionate in *Emiliania huxleyi* (strain L). Mar. Ecol. Prog. Ser.

Slezak D., A. Brugger & G.J. Herndl (2001): Impact of solar radiation on the biological removal of dimethylsulfoniopropionate and dimethylsulfide in marine surface waters. Aquat. Microb. Ecol. 25:87-97

Griebler C., & D. Slezak (2001): Microbial activity in aquatic environments measured by dimethyl sulfoxide reduction and intercomparison with commonly used methods. Appl. Environ. Microbiol. 67:100-109

Brugger A., D. Slezak. I. Obernosterer & G.J. Herndl (1998): Photolysis of dimethylsulfide in the Northern Adriatic Sea: dependence on substrate concentration, irradiance and DOC concentration. Mar. Chem. 59: 321-331.

Slezak D., S. Puskaric & G.J. Herndl (1994): Potential role of acrylic acid in bacterioplankton communities in the sea. Mar. Ecol. Prog. Ser. 105: 191-197

Five other publications:

Griebler, C. B. Mindl, D. Slezak and M. Geiger-Kaiser (*in press 4/02*): Distribution patterns of attached and unattached bacteria in pristine and contaminated shallow aquifers studied with an in situ sediment exposure microcosm (ISSEM). Aquat. Microb. Ecol.

Griebler C., & D. Slezak (2000): Microbial DMSO reduction is widespread among microorganisms and is therefore proposed as a reliable activity parameter. Verh. Internat. Verein. Limnol. 27:2492-2497

Riegman R., W. Stolte, A.A.M. Noordeloos & D. Slezak (2000): Nutrient uptake and alkaline phosphatase (EC 3:1:3:1) activity of Emiliania huxleyi (Strain L) during growth under N and P-limitation in continuous cultures. J. Phycol. 36:87-96

Unanue M., B. Ayo, M. Agis, D. Slezak, G.J. Herndl & J. Iriberri (1999): Ectoenzymatic activity and uptake of monomers in marine bacterioplankton described by a biphasic kinetic model. Microb. Ecol. 37: 36-48

Herndl G.J., A. Brugger, S. Hager, E. Kaiser, I. Obernosterer, B. Reitner & D. Slezak (1997): Role of ultraviolet-B radiation on bacterioplankton and the availability of dissolved organic matter. Plant Ecology 128: 42-51

Research Collaborators last 4years:

Christian Griebler (Germany), Dan Danielopol (Austria), Roel, Riegman (Netherlands)

Graduate Students Co-Advised:

Albert Brugger (M.S. 1996)