

ASLO BULLETIN

American Society of Limnology and Oceanography

Volume 4(4)

Autumn, 1995

CONTENTS

Message from the President

Current and Upcoming Activities.....1

ASLO News

Recognizing ASLO's Responsibilities to Its International Members.....2

Workshop, Illustrative Materials and Laboratory, Computer, & Field

Exercises for Use in Undergraduate Aquatic Science Courses3

Wanted: Information and Opinions About Electronic Publishing.....3

Dialog Program: Try, Try Again4

ASLO Forum

Report: XII International Symposium on Environmental Biogeochemistry: Biosphere and Atmospheric Changes5

Office of Naval Research's Biological and Chemical Oceanography

Program.....5

Slide/Video Collection: Survey for ASLO Members..... 6, 7

Inter-American Institute for Global Change Research8

Inter-American Institute for Global Change Research: Call for Proposals..... 8

Inter-American Institute for Global Change Research: Suggestions for Proposals to the Initial Science Program.....8

Ecological Analysis and Synthesis: Call for Proposals10

Holger W. Jannasch Elected to the National Academy of Sciences.....11

George Kling Receives Presidential Faculty Fellowship12

Workshop Tackles the Challenges Facing Coastal Laboratories13

Terminology—Just Words.....13

This Year, Do Your Science a Favour: Nominate a Colleague.....14

1995 ASLO Awards..... 15

Academic Careers in Limnology and Oceanography: Survey..... 16, 17

Jobs18

ASLO Meetings 19

Calendar of Events 20

National Research Council Invites Participation in a Multidisciplinary

Symposium on Undergraduate Education23

ASLO HOME PAGE: <http://www.ngdc.noaa.gov/paleo/aslo/aslo.html>

MESSAGE FROM THE PRESIDENT

CURRENT AND UPCOMING ACTIVITIES

Nancy Marcus, ASLO President, Department of Oceanography, Florida State University, Tallahassee, FL 32306 (Tel: 904 644-5498; fax: 04 644-2581; marcus@ocean.fsu.edu

Since my last message, ASLO has been proceeding along several tracks that were established during the last year:

Education: The development of educational initiatives continues to attract my attention and I am pleased that more of our members are showing interest in this area as well:

- Susan Weiler is organizing a 1-day workshop on Undergraduate Aquatic Science Education: Illustrative Materials and Exercises, to be held June 16, 1996 at the ASLO meeting in Milwaukee. The workshop will focus on slides, videos and other illustrative materials, and laboratory, computer and field exercises as part of ASLO's long-term goal to develop a multi-media collection of educational material and make resources available through the society. Registration forms and instructions for submitting abstracts are provided in the Call for Papers and on the ASLO homepage. This workshop

is a follow-up to the Workshop on the Use of Emerging Technologies in Undergraduate Education, held at the 1996 meeting in Reno. Both are supported by the National Science Foundation's Division of Undergraduate Education.

- Jim Cotner, ASLO Education Committee member, has put together a survey (p. 7) to gather information for the "slides and videos" initiative. Please contribute to this effort by completing the survey.

- The National Research Council is organizing a series of regional symposia on Undergraduate Education in Science, Mathematics, Engineering, and Technology (p. 23) which I urge you to attend if one happens to be in your area. There is no registration fee. Moreover, I have indicated to the NRC that ASLO would be interested in co-sponsoring a topical forum on undergraduate education at our meeting in Santa Fe.

International: I have asked Erica Head to Chair an ad hoc Committee to assess the needs of international members and to recommend strategies for increasing the participation of these members in ASLO activities (p. 2).

The *ASLO Bulletin* is published 3 times annually (in March, August and November) by the American Society of Limnology and Oceanography, 810 E. 10th St., Lawrence, KS 66044-8897, to provide members with up-to-date information on society activities and to serve as a forum for open discussion.

EDITOR: C. Susan Weiler, ASLO Executive Director, Whitman College, Walla Walla, WA 99362, USA
Tel: 509-527-5948; Fax: 509-527-5961; weiler@whitman.edu

TARGET DATES for 1996 submissions: February 12, July 8, & October 14, 1995

ADVERTISING: Jobs, opportunities: \$14/line (80 characters & spaces per line); send to Susan Weiler (address above).
For-Profit advertisers: Camera-ready copy only; send to Karen Hickey (address below).

MOVING? Send your change of address to: Karen Hickey, ASLO Business Office, P.O. Box 1897, Lawrence, KS 66044
Tel: 913-843-1221; Fax: 913-843-1274; khickey@allenpress.com

ASLO Operations: The Executive Committee has asked the Finance Committee chaired by Mark Hay to examine the operations of ASLO's various offices (Business, Executive Director, Editor-in-Chief and Managing Editor) and to make recommendations regarding the future organization of these offices. This topic is timely because Lyn Cole will be retiring in approximately a year, and the current contract with Allen Press is up for renewal.

Electronic Communication: Electronic communication, especially via the World-Wide Web, is another area receiving attention by ASLO. Our homepage continues to expand due to the hard work of several people especially Paul Kemp and Alan Schussman. This year for the first time, the Call for Papers and registration forms for an ASLO meeting (ASLO '96 meeting in Milwaukee) will be placed on the ASLO homepage. We are exploring alternative sites for the homepage and welcome suggestions for information to include on the web site. Omnet representatives are interested in working with ASLO and other societies to expand Internet services and information to the ocean science community,

Meetings: Many of you may not fully appreciate all of the behind-the-scenes work that goes into planning our annual and special meetings. It is an extremely time consuming task and we owe Polly Penhale, Susan Weiler, Karen Hickey, and the Program Committee our heartiest

thanks. Please see the meetings Section (p. 20) for details on the three meetings currently under planning: The February, 1996 AGU/ASLO Ocean Sciences meeting in San Diego, California; the June, 1996 ASLO Annual meeting in Milwaukee, Wisconsin; and the February, 1997 ASLO Aquatic Sciences meeting in Santa Fe, New Mexico. Please note that the Santa Fe meeting will be held February 10 - 14, 1997; there will be no summer meeting in 1997. As always, we seek volunteers willing to host future summer meetings. Please contact Polly Penhale (ppenhale@nsf.gov) if you would be interested.

ASLO Auction: The first-ever ASLO fund-raising auction will be held at the ASLO '96 meeting in Milwaukee. Monies raised will go to the ASLO Endowment Fund, to support educational and other activities. Please see the CFP for details and plan to take an active part in this event. You can bring items with you, or mail them in advance to Art Brooks (p. 18).

Looking forward to seeing you in 1996 in San Diego and in Milwaukee. Have a pleasant Holiday Season.

Please complete the two surveys:

- Slide/Video Collection Survey, p. 6, 7
- Academic Careers Survey, p. 16, 17

ASLO NEWS

RECOGNIZING ASLO'S RESPONSIBILITIES TO ITS INTERNATIONAL MEMBERS

Erica J.H. Head, ASLO Member-at-Large and International Committee Chair, Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, Nova Scotia, B2Y 4A2, Canada (Tel: 902-426-2317; Fax: 902-426-9388 ehead@bionet.bio.dfo.ca)

The current ASLO membership includes a significant number (~21%) of individuals who do not live or work in North America. Some of these members contribute articles to the journal, some come to meetings and some participate in the special programs (e.g. DIALOG and CURMLO), but to date the international members have generally kept a relatively low profile within the Society. This may be because they think of themselves as "guest" members, because ASLO is nominally an "American" Society, and because most members are from the United States. They should not think this, however. They pay the same membership fees as do the North American members and they should receive the same benefits, insofar as geography permits. They may also be reticent because, like many of our North American members, they are not really interested in Society affairs and join only to get the journal and to be able to present papers at meetings. Another possibility, however, is that we (the Board) do not hear from them because they do not think that we would listen. Well, we would like to set the record straight. We do care what our international members think about the Society and we would like to have them participate as actively as possible within the Society.

The purpose of this article is to invite comments on this subject from international members, and from any other interested members, with the assurance that we are listening. Several ideas have been proposed on aspects of this issue, which might help to promote discussion:

International Committee: One suggestion has been that we set up an ad hoc Committee, to gather information about how the Society is serving, or could better serve, its international members. Towards this end, President Marcus has asked me to chair such a committee. Initially this committee will solicit information about the expectations that our international members have of the society and the extent to which they are currently being met. In addition, however, it will also seek to identify areas in which more could or should be done. For example, it has been suggested that members from the more affluent nations might be encouraged to sponsor society memberships for individual scientists from less affluent countries, who simply cannot afford to join on their own. If you would like to be involved in this process of elucidating and redefining the role of international members within ASLO then please take this as an invitation to volunteer to serve on this Committee, bearing in mind that we would like its members to come from a broad geographical distribution.

Board Representation: Another way in which the interests of our international members might be represented is by having an overseas member on the Board. As a Board member, such an individual would discuss and vote on Board decisions. While s/he would have responsibilities to

the entire membership, as do all Board members, s/he could provide an international perspective on the issues of the day. In order for a board member to be elected, however, they must be nominated, and to this end we would encourage our international members to put forward names to our nominations committee. There are at least 2 and sometimes 3 positions for Member-at-Large open each year. The deadline for this year's nominations is early December. Contact John Cullen if you would like to submit a nomination, including self-nominations, for this year (Internet: jcullen@ac.dal.ca). Don't worry about missing the deadline; names will be forwarded to next year's committee.

Meetings: Another subject which we would like to discuss relates to our meetings. We sometimes hear complaints that ASLO meetings tend to be dominated by North American, and specifically U.S., interests. This is largely a result of the demographics of the membership, but we would like to remind our international members that it is also a function of who proposes special sessions. International members should be aware that they can convene special sessions at ASLO meetings, and we encourage them to do so. In addition, although venues of our large spring and summer meetings are likely to remain in North America, it is possible that if local organizers were to be forthcoming, the Society would hold special symposia elsewhere. For example, ASLO co-sponsored a meeting of the British ecological society in Cork, Ireland (1992) and in 1994 had planned to co-sponsor an International SIL workshop on aquatic microbial ecology in Uppsala, Sweden (the meeting was canceled due to the death of the meeting organizer, Russell T. Bell.)

Still on the subject of meetings, but on a slightly different note, we are also concerned that while in general the reputation of North Americans for hospitality is legendary, this hospitality is not always in evidence on a personal level at ASLO meetings. The reasons, or excuses, for this are numerous. ASLO meetings are very hectic. Quite apart from all the concurrent sessions of scientific talks that are going on, they provide opportunities for encountering old friends and colleagues from different parts of the country, and different parts of the world, and for discussing future group scientific projects. In all the hustle and bustle, the first-time or occasional visitor can feel lost, excluded and intimidated, even if their first language is English and even if they are from North America! We would like to try to address this, but informally. One suggestion has been to set up a "hospitality bar", which would be designated as a place where individuals, or small groups, could meet informally after the day's sessions. Please send me your suggestions.

Other: These are just a few of the ideas that we have been discussing. There may be others that we have not considered. Please take the time to let us know your views. And finally, ASLO belongs to all its members: get the most from your membership by being an active member!

WORKSHOP, ILLUSTRATIVE MATERIALS AND LABORATORY, COMPUTER, AND FIELD EXERCISES FOR USE IN UNDERGRADUATE AQUATIC SCIENCE COURSES

C. Susan Weiler, Executive Director, Department of Biology, Whitman College, Walla Walla, WA 99362 (weiler@whitman.edu)

The ASLO '96 meeting, to be held June 16-20, 1996 in Milwaukee, will feature a 1-day workshop on the use of slides, videos, and other illustrative materials and laboratory, computer and field exercises for use in undergraduate aquatic science courses. This effort is supported by NSF's Division of Undergraduate Education, and is part of a long-term goal to develop a multi-media collection of educational material and make resources available through the Society. Even if you can't participate in the workshop (but I hope you can and will!) please plan to contribute some of your favorite slides, videos and laboratory, field or computer exercises to ASLO.

WANTED: INFORMATION AND OPINIONS ABOUT ELECTRONIC PUBLISHING

David L. Kirchman, L&O Editor-in-Chief, College of Marine Studies, University of Delaware, Lewes, DE 19958 (Tel: 302-645-4375; Fax: 302-645-4028; kirchman@brahms.udel.edu)

The hard copy you have in your hands now may be the first time that these words appear in a media composed of cellulose fibers. After I finish writing this piece on my word processor, I can push a few buttons to submit it to the *ASLO Bulletin* via e-mail, which is fortunate as the submission deadline nears much too quickly even for express mail. Also, an e-mail submission is especially appropriate for this article because I am writing it to solicit your input and help regarding electronic publications.

At its last meeting the ASLO Board asked that I chair a committee to examine where we are going with electronic publishing, or perhaps more accurately where the electronic media is taking us. We've just started our deliberations (so far, all conducted by e-mail) and so now is the time to make your opinions known. Of course, "publication" brings to mind *Limnology and Oceanography*, but this committee is looking beyond what electronic publishing means to the journal. Let me just list some topics and questions that you need to answer:

1. Should there be an electronic version of L&O? How much are you willing to pay for it? Some societies offer an electronic version at about the same price as the paper copy, i.e. if one were to subscribe to both, the total would be double the original price.

2. The paper journal could be supplemented by various types of electronic appendices, such as movies, tables of data appearing in figures (so others can analyze the data without having to read it off the figure), and ancillary data. By the last item, I mean data that are not essential for the paper's main story line, but that could prove useful for future analyses. Do these additions sound interesting and important? Again, how much would you be willing to pay for these things?

3. Should ASLO publish a separate electronic journal independent of L&O? If so, what should its focus be? What should this "journal" look like? The possibilities range from a journal like L&O to a more informal "meeting room" without much regulation or peer-review.

To help decide what is best for L&O and ASLO, we need to consider what other journals and societies are doing. I know several organizations have launched or are in the process of launching electronic journals. I am curious of what you think about these journals. What can we learn from them? What makes them interesting (or boring)? We are collecting information about electronic journals, and in addition I would greatly appreciate hearing your opinions about what other societies and publishers are putting out into cyberspace.

Now is the time to make your opinions known. The electronic world is changing very fast and the possibilities are only expanding, making it a challenge to keep a breast but also interesting to fantasize about the rapidly approaching future. You have a vested interest in helping to shape this future because you will have to live in it and probably pay for it, directly or indirectly. Using more electrons and less paper in publishing L&O can save some money (and perhaps time), but there are really no free lunches on the information highway. So, we need to hear your answers to the questions I raised above. Of course, e-mail is a great way to get your message and information to me quickly and easily. I can be reached at kirchman@brahms.udel.edu.

Meanwhile, we are trying to venture ahead in cyberspace here at L&O and ASLO. You may want to check out the ASLO homepage (<http://www.ngdc.noaa.gov/paleo/aslo/aslo.html>) where we hope to add more L&O information. Other plans are already in the works.

I need to submit this article as I'm already past the deadline. But first I better do "spell check", may be even "grammar check". And I can't resist. To find out how this article reads, I need to print up a hard copy, and probably I'll mark it up with some primitive device, like a red pen. I guess I have a ways to go in this electronic age, which is why I need your input now.

Add Your PH.D. Dissertation Abstract to the ASLO Home Page

If you have received your Ph.D. since June 1, 1992 and did not submit an abstract for the 1994 DIALOG Program, but would like to have your abstract included on the ASLO Home Page, please send your full name, mailing address, phone, fax, e-mail, year of birth, gender, citizenship, primary field of dissertation research (limnology or oceanography), 3 key words describing area of expertise, Ph.D.-granting institution, complete dissertation citation (name, year, title, institution, and # pages), and a 1-page abstract (must fit in a 6" x 9" space using times 12 type), to meekerme@whitman.edu. E-mail copies or discs only please, with a hard/fax copy if special characters are used.

DIALOG PROGRAM: TRY, TRY AGAIN

C. Susan Weiler, Executive Director

Before I go on, let me first say that a revised proposal is already under development! But the sad news is that the renewal proposal for the DIALOG program was declined. The mail reviews were quite divided (2 E, 1 VG, 1F, 1P) with the differences of a mostly philosophical nature. Given the shortage of research funds, it should come as no surprise that a major criticism was that research funds should not be used to support non-research proposals. One reviewer felt that Federal agencies should not fund meetings focused on research careers and opportunities "precisely at a time when students are asking about information *outside* traditional research tracks." There was also concern about using research moneys for the survey work proposed (to document Ph.D.-granting institutions and numbers of Ph.D.s being produced in aquatic science). Another reviewer was concerned that, because there is a barrier or bias against cross-disciplinary research, we should not "place the burden of crossing the 'barrier' on young Ph.D.s who have the highest stakes in losing grant support....The risk of invoking this bias is too great for new grant applicants who depend 100% on soft money."

Other reviewers were more positive, focusing on the benefits of having an intense, in-depth workshop where young scientists can develop interactions and relationships which can be sustained over their careers. Having come myself from an institution (SIO) with a large number of graduate students (200 oceanography graduate students total, with more than 30 in my year-class alone), I know how useful and sustaining such a cohort can be, both personally and professionally. Very few institutions offer opportunities for limnologists and oceanographers to mingle. Furthermore, It can take years to develop a collegial network without the head-start provided by a large, interdisciplinary institution or a program such as DIALOG. DIALOG is not an untried concept. The DISCO program in Chemical Oceanography (Green and Sackett, 1988) has been going for almost 20 years with great success. While it is too early to tell what the long-term benefits of the DIALOG Program will be, it is already fulfilling its early potential (see last two *Bulletin* issues and Weiler, 1995 for details).

References

- Green, E.J. and W.M. Sackett, 1988. DISCO 10-year retrospective survey results. *EOS* 69(44):1015-1018.
Weiler, C.S., 1995. Dissertations Initiative for the Advancement of Limnology and Oceanography (DIALOG). American Society of Limnology and Oceanography, 88 pp.

NSF FUNDING FOR COLLABORATIONS WITH THE FORMER SOVIET UNION

There is funding available for collaborations with the former Soviet Union (FSU). In FY96, NSF will have \$10M to support reviewed proposals that cover basic or applied research, and promote defense conversion and development of market economics in countries of the FSU. For more information please contact:

Cassandra Turczak, Tel: 703-306-1703; or cturczak@nsf.gov

ASLO FORUM

REPORT, XII INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL BIOGEOCHEMISTRY: BIOSPHERE AND ATMOSPHERIC CHANGES

The International Symposium on Environmental Biogeochemistry (ISEB) convened its 12th biennial symposium during the week of 3 September in Rio de Janeiro, Brazil. The Symposium was graciously hosted by the Brazilian National Committee (Dr. Angela Rebello Wagener, chair; Dr. Luis Melges de Figueiredo, secretary; Dr. Regina Leme Santelli, treasurer) which did an excellent job of organizing and running the meeting. Support for the symposium was generously provided by the Brazilian Research Council, the Studies and Projects Financing Agency (FINAEP), the Coordination for Development of Academic Personnel (CAPES) and the Rio de Janeiro Foundation for Research Support (FAPERJ). The theme of the Symposium was "Biosphere and Atmospheric Changes" and 145 researchers from 26 countries gathered to listen to 9 plenary lectures and 40 contributed talks, and attended 80 posters on diverse topics including trace gases and cycling of nutrients, organics and metals in terrestrial, aquatic and atmospheric systems.

The opening lecture was given by G. Woodwell (Woods Hole, Ma, USA) who detailed some of the pressing uncertainties in the terrestrial component of the C cycle. J. Sprent (Dundee, U.K.) discussed the evolution and distribution of N₂ fixing leguminous trees, and D. Capone (Solomons, Md., USA) emphasized the importance of N₂ fixation in the marine N cycle. P. Liss (Norwich, UK) provided a report on the recent IRONEX II Fe-enrichment experiment near the Galapagos Islands. Reports on recent developments in the UV effects of radiation in terrestrial and marine ecosystems were provided by M. Caldwell (Logan, Utah, USA) and O. Holm-Hansen (La Jolla, Ca., USA), respectively. J. Dobreiner (Rio de Janeiro, Brazil) described the successes and directions in the development of bioenergy in Brazil. J. Raven (Dundee, UK) gave a thoughtful analysis of the role of the marine biota in the subsequent development of the terrestrial biota, with specific reference to their interactions through the exchange of various relevant gases with the atmosphere. H. Leith (Germany) proposed use of broad-based, multi-element analyses for comparing and tracking diverse ecosystems.

The Wolf Vishniac Memorial Award for a promising young researcher was given to Dr. Francesca Cotrufo (Naples, Italy) for her presentation and contributed paper on "Rising CO₂, Decomposition Processes and Soil Stores".

The next Symposium will be held in Bari, Italy in the last week of Sept., 1997. Contact N. Senisi (Univ. Bari, Istituto di Chimica Agraria, via Amendola, 165/A-70126, Bari, Italy; fax: 39-80-5442813) for further information.

OFFICE OF NAVAL RESEARCH'S BIOLOGICAL AND CHEMICAL OCEANOGRAPHY PROGRAM

Eric Shulenberg, Program Manager, Biological and Chemical Oceanography Program, Office of Naval Research, 800 N. Quincy St., Arlington, VA 22217 (shulene@onrhq.onr.navy.mil)

This letter is designed to bring you all up to date on this program's internal doings. The usual disclaimer applies: these are my own opinions, not passed upon by higher authority, and both the opinions and the data upon which they are based are volatile.

Bureaucratic structure: About a year ago, the old Oceanic Biology and Marine Chemistry programs were combined into Biological and Chemical Oceanography (Code 322-BC). This seems a sensible move, in that they are so closely related. What does this mean? I am the Team Leader (AKA program manager) for the agglomeration. Ron Tipper (scientific officer) and I work the biology part of the program. Ron also helps keep us connected with the real Navy. Ed Green continues as scientific officer handling the overt marine chemistry, and helping with the chemical aspects of biological topics.

Budgets: The bio and chem core budgets have likewise been combined, starting in FY96, into a single line. Distribution of 322-BC's funds between BO (biol) and CO (chem) will be managed as a closely coordinated effort by all of us, under my direction.

Money flow within ONR is complex. Code 322-BC's budget is almost entirely 6.1 moneys (6.1 = basic research, as contrasted to 6.2, 6.3, etc which are more clearly applied). Code 322-BC's 6.1 money for things oceanographic is parceled out to programs under an over-arching investment philosophy developed well above the level of the program managers—having philosophized, it then becomes those folks' unenviable job to determine (as higher-level program managers) how to distribute funds among the ten programs in Code 322 and eight programs in Code 321.

The present department philosophy incorporates an opinion that ONR can get more bang for its buck by shifting emphasis given to various programs within Code 32. Through all this, one must remember, such decisions are necessary—you and I may disagree with the result, but someone does have to make them. The concrete form of the ideas is a 5-year budgetary plan which has been presented to our collective superiors, all of whom have signed off on it. Some of the changes that appear in the 6.1 5-year budget plan include: (a) a general shift of emphasis from observational/process-oriented to modeling efforts; (b) setting aside a significant chunk of Code 32's budget for our internal ARI-like process (called DRI); (c) adjusting various program budgets. Because we are in a zero-sum (or shrinking) game, some programs have lost budgetary ground (including BO, CO, G&G, and Phys O) while others gained (e.g., remote sensing, ocean modeling, and atmospheric studies). Code 322-BC is primarily observational/process-oriented,

and our budgets suffer accordingly. (One should add to this the general decline in military funds (remember, it's O-of-Naval-R), and the apparent decline in respectability and desirability of basic research itself.) Please, please (!) remember that these plans are cast in purest Jell-O?! Published plans as of today for combined (total) 6.1 core for CO+BO are:

FY95	\$5093 k	FY98	\$3560 k
FY96	\$4721 k	FY99	\$3600 k
FY97	\$4100 k	FY00	\$3630 k

Some more informal plans differ, and show a continuing decline in Code 322-BC's core funding through 2001. The above figures do not include any leftover ARI moneys due in those years, nor any pie-in-the-sky, nor any moneys we may get from other 6.x categories of funds. As a comparison, recall that in FY94, the separate BO program had a core of >\$3.6 M, plus another \$~3 M of ARI moneys— and CO had an additional ~\$1.9M core plus ARIs. Such declining budgets make it very difficult to formally commit to more than 2-year funding increments (even if a PI's effort is really much longer). These observations on declining budgets lead directly into the next section.

What to do about the program, given declining budgets?

While these budgets are pretty mushy, they are the figures against which we must plan our future. I'm a strong believer that given this level of reduction in funds, one should not peanut-butter the cuts over all major program areas, since that would probably result in doing a bad job on all, thereby satisfying no-one and demonstrating to all that the program really doesn't produce anything good enough to rate its being continued. Rather, I believe in vertical cuts, which at least offer the chance of continuing to do a good job in a few important areas. I've discussed this problem with many of you: the wilder ideas have ranged up to "Let's just cut out CO entirely!" Needless to say, we aren't getting that wild in real life. To date, we're planning to keep the same general percentage distribution of total core funds between BO (~65) and CO (~35) as was traditional in pre-combination days, subject to adjustment. We're also looking for ideas that actively combine BO with CO, and with other programs here in ONR.

Biological Oceanography: There is little reason for the Navy to be interested in biological oceanography per se: rather, the interest comes from biological interference with Navy systems. Within BO, there have been two major thrusts: optical biology (phytoplankton) and acoustical biology (zooplankton). Navy sensing systems are now dominated by high-frequency acoustics, with which zooplankton can interfere. We believe that those sensing systems, especially in the Navy's high-priority littoral zone, will continue to be dominated by acoustics for a long time. Optical systems, with which phytoplankton and other biology interfere, are beginning to come on line. Obviously they will eventually become significant in Navy operations, but their eventual importance is more problematical. Although capable of very high-resolution, likely they will remain short-range (relative to acoustics) and limited to less turbid loci. We will therefore maintain as best we can the

current level of acoustical investment, especially re. water-column community structure and function. We will also maintain as much presence as possible in optical, but we do plan to significantly reduce our investment there (reduce is not eliminate). In addition, we seek to grow a small program of benthic work, particularly as it applies to high-frequency acoustics and mine counter-measures

Chemical Oceanography: Within CO, there have been two major thrusts: marine aerosols and trace metals. The trace metals work culminated in the ONR contribution to IRONEX et al., and is being phased out of the program. The aerosol-related work (mostly on sulfur compounds from phytoplankton) will continue, at a slightly reduced level. Using the few bucks freed up by these changes, we plan to begin a small program investigating the chemistry of colored (optically active) dissolved substances.

Important caveat: This doesn't mean that there is no room in the program for other topics—there definitely is. (Just look at the latest BO & CO program books). And it does not mean that we are any less interested in wild-and-crazy ideas, nor does it mean that we are going applied. It means that we are going to (de, re) emphasize areas in accord with Navy interests and budgets. I'm just letting you know what's up so you can plan accordingly: your comments and suggestions are welcome. As we compete to bring additional funds into the program, your ideas are critical—they are the meat and potatoes of our continued growth.

SLIDE/VIDEO COLLECTION: SURVEY FOR ASLO MEMBERS

James B. Cotner, Dept. Wildlife and Fisheries Science, Texas A&M University, College Station, TX 77843-2258 (Tel: 409-845-0169; Fax: 409-845-4096; jcotner@tamu.edu)

ASLO President Nancy Marcus has asked me to determine the interest level amongst ASLO members for putting together and purchasing slides and videos of various limnological and oceanographic features. I would love to be able to show students pictures of various types of lakes, reservoirs, streams/rivers, wetlands, estuaries, coastal ocean, open ocean, organisms, etc. I discuss various phytoplankton species in my lectures, but I'm not a phycologist and do not have pictures of many phytoplankton species. Many of you do--and similarly, might have holes in your collection that others might be able to fill. Zooplankton, macroinvertebrates and fish (both freshwater and marine) would also be useful, just to name a few. Use your imagination and give me some of your ideas.

The way this would work is that we would collect the slides/videos that you send us, put the best ones together into various sets and sell them back to ASLO members and non-ASLO members with the proceeds going into our scholarship fund, travel grants or whatever else we decide on. Of course, we would need permission from each of you to use your slides in this way. Costs of the sets will vary depending on the number of slides in a set and the interest level. To gauge that interest, I would like to have you answer and return the survey on the following page.

SLIDE/VIDEO COLLECTION SURVEY FOR ASLO MEMBERS

1. Do you have slides or videos to contribute to our collection? ____ Yes ____ No
2. If so, what are the images of? Please describe your videos, slides and/or slide sets. (Use separate sheet if necessary). Be sure to indicate how many slides you have.
3. As a user of the collection, would you be more interested in specific images, or a collection/set on some theme? ____ Specific images ____ set on some theme
4. How many slides should a set contain?
5. How much would you (and/or your department) be willing to spend on one slide set?
a. ____\$50-\$100 b. ____ \$100-\$200 c. ____\$200-\$300 d. ____ other
6. What sorts of images (or sets) would you particularly like to obtain?
7. How many different sets would you be willing to purchase? _____.
8. How much would you (and/or your department) be willing to spend on video footage?
a. ____\$50-\$100 b. ____ \$100-\$200 c. ____\$200-\$300 d. ____ other
9. What sorts of video footage would you particularly like to obtain?
10. Would you prefer to receive these slide sets or video footage in any other format, such as a single photo CD?
11. Other comments/suggestions:

Return to: James B. Cotner
Dept. Wildlife and Fisheries Science
Texas A&M University
College Station, TX 77843-2258
Fax: 409-845-4096; jcotner@tamu.edu)

Please return your response to me by **January 15, 1996.**

INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH

Condensed from Inter-American Institute for Global Change Research (IAI) Scientific Development

The Inter-American Institute for Global Change Research (IAI) was created in May, 1992 to address the need for advanced study of regionally significant global change issues. It is designed to evolve as a network of research facilities throughout the Americas which will augment research capabilities and promote education and training within the scientific fields most important to current and future global change. Participating countries include Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Mexico, Panama, Paraguay, Peru, USA, and Uruguay. The IAI Implementation Committee has a mandate to advance the development of the IAI Science Agenda and the organizational and operational infrastructure through which the agenda will be implemented.

The IAI is a partnership to advance sustainable development of the region through the generation of environmental data, scientific research and policy-relevant information derived in and by the countries of the Americas. The initiative is designed to build scientific and technological capacity through a focused education and training program for the region and provide a forum for the analysis of environmental information in the context of pressing socio-economic needs. All scientific data and information collected and analyzed by the IAI will be derived from the participating countries and managed as a common resource

The IAI currently has seven scientific research themes:

- 1) Tropical Ecosystems and Biogeochemical Cycles;
- 2) Study of the Impacts of Climate Change on Biodiversity;
- 3) El-Niño-Southern Oscillation and Interannual Climate Variability;
- 4) Ocean/Land/Atmosphere Interactions in the Inter-tropical Americas;
- 5) Comparative Studies of Oceanic, Coastal and Estuarine Processes in the Temperate Zones;
- 6) Comparative Studies of Temperate Terrestrial Ecosystems; and
- 7) High Latitude Processes.

INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH: CALL FOR PROPOSALS

Condensed from material provided by the IAI Secretariat, c/o National Science Foundation, Suite 705, 4201 Wilson Boulevard, Arlington, VA 22230 (Tel: 703-306-1502; Fax: 703-306-0372)

The Initial Science Program (ISP) of the Inter-American Institute for Global Change Research (IAI) was approved by the IAI Conference of the Parties (CoP), the IAI policy-making body, at its second meeting which was held in Rio de Janeiro, Brazil from April 26-28, 1995.

The IAI/ISP, working in parallel with other IAI activities, has as its purpose the support of science programs and activities in research, education and training, data and information management, communications, modeling, and/or other high-priority areas. The ISP will operate through 1997,

at which time the IAI CoP is expected to establish the first set of CoP-approved IAI programs.

The IAI Initial Science Program will consist of one-time awards that may be used for activities that have near-term benefits to the advancement of the IAI Science Agenda. These awards will not be continuing grants, but may have a duration of up to three years. The IAI has allocated approximately \$2.0 million for this activity and expects to make 15-20 awards. The ISP proposals will be reviewed by panels consisting of members of the IAI Scientific Advisory Committee (SAC) and scientists that are experts in the fields of the IAI Science Agenda. These proposals must be reviewed and approved by the IAI SAC and the IAI Executive Council, both of which are scheduled to meet in October 1995 and March 1996. The deadline for proposal submission was September 8, 1995 for the first round of awards and will be February 15, 1995 for the second round of awards. Instructions for retrieving the IAI Initial Science Program (ISP) Announcement of Opportunity from the NSF server are provided below). This announcement will provide you with the necessary details for submitting a proposal for the ISP awards.

The IAI looks forward to your participation in this important initiative of the IAI Science Agenda. If you have any questions regarding the IAI/ISP Announcement of Opportunity, please feel free to contact Dr. Paul E. Filmer, IAI Program Director. He may be reached at the above address or by phone at 703-306-1515, by fax at 703-306-0091, or by e-mail at pfilmer@nsf.gov. Information can also be accessed via the NSF server: The announcement is titled: "IAIISP IAI INITIAL SCIENCE PROGRAM" The document number is: IAIISP. There are several methods of accessing the file, the simplest of which is the following: stisserv@nsf.gov

Leave the subject line blank, and put ONLY the following in the text of the message: `get iaiisp`

You will receive the file at the address from which you sent the original message. You may also be interested in the general STIS index, document nsf944, which is 104K in size. The 'Grant Proposal Guide' is also available as file nsf942.

INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH: SUGGESTIONS FOR PROPOSALS TO THE INITIAL SCIENCE PROGRAM

C. Susan Weiler, Department of Biology, Whitman College, Walla Walla, WA 99362

I had the good fortune to be one of the review panel members for the first round of proposals for the IAI's Initial Science Program. The review panel met October 2 - 5, 1995 in Montevideo, Uruguay to review ca. 90 proposals covering all 7 of the IAI research themes (see above). After each proposal was reviewed by 3 or more of the 29 panel review members, the full panel met in 2 subgroups (one group responsible for themes 1,2,6&7; another for themes 2,3&5) for a first round of evaluation and ranking. Then the two subgroups met together to come up with a combined ranking for each proposal, including some cross-cutting proposals

which were individual reviewed by members from both groups. This sounds complicated, with many different criteria used to evaluate and much “comparing” of the proverbial apples and oranges. But, despite all rational evidence to the contrary, the system worked. Given that there always seem to be more excellent proposals than money these days, it is no surprise that other criteria (in addition to scientific excellence, not instead of) come into the decision making process (see below). The process was helped by the sensitive and able management of Paul Filmer and by a group of around 30 individuals with very diverse backgrounds who all shared one thing: a commitment to the IAI goals and the process. Discussions were lively, useful, and always collegial. After much deliberation, a ranked list of ca. 20 proposals was submitted to the members of the Scientific Advisory Committee (SAC). The SAC considers the balance between themes, the contribution to the Scientific Agenda and to the Initial Science Program (which contains more than just the proposals), and makes a recommendation to the IAI Executive Council, which has the final granting authority. Because the SAC members also participated in the first two rounds of decision-making, they began their deliberations with a through understanding of each proposal’s scientific merit and the full panel’s analysis of the other criteria used by the panel. It was a real pleasure to work with such a diverse group on such an exciting project: to establish closer scientific understanding and collaborations across national borders throughout the Americas.

The next deadline for proposals is February 15, 1996.

With the IAI guidelines so well specified, the PI has good opportunity to develop a proposal that stands out on many levels. I offer the following recommendations as you prepare yours for submission:

1) Read the program descriptions carefully and tailor your project to their guidelines. The program is more defined than a typical NSF program. It is necessary that the proposed work be excellent, and it must also fit within the 7 IAI themes. One factor which overrides all the 7 themes is that it relate to Global Change—that means present trends and how they might relate to the future. For example, a paleo project would be suitable, but only if analysis of the past could be used to enhance our understanding of the present or predict the future.

2) Consider the criteria used for ranking proposals.

The 7 criteria used in the first round were:

- **Scientific Excellence.** Again, this is necessary but not sufficient. Even excellent science will be ruled out if it does not fit the IAI agenda. This category includes activities in education and training, data and information management, modeling, or activities in other cross-cutting programs as well.
- **Technical Soundness.** Since the body of the proposal is limited to 5 pages, it is necessary to be *very* concise. You must provide sufficient detail to convince the reviewer that the project is do-able in the time proposed, that the methods are appropriate, and that the team has the necessary expertise to conduct the proposed work. Concentrate effort on the

most critical and/or most controversial portions of your work.

- **Commitment of In-kind Contributions:** For this program, institutions must demonstrate a commitment of in-kind contributions to the project (salary support, equipment access, office space, access to institutionally owned data sets, etc). This should be documented by letters of commitment from each participating institution, attached in the proposal appendices.
- **Multi-institutional Collaboration:** Involve different institutions, both within and among countries. Proposals involving more than two institutions and more than 2 countries fared particularly well in the first round. The 16 countries who have signed the IAI agreement include: Argentina; Bolivia; Brazil; Canada; Chile; Colombia; Cost Rica; Cuba; Dominican Republic; Ecuador; Mexico; Panama; Paraguay; Peru; USA; and Uruguay. The IAI goal is to establish new collaborations, so don’t despair if you don’t yet know someone in one of these countries; do take this as an opportunity to develop new collegial associations. Some of the first-round proposals involved more than one country or institution, but there was little real collaboration—make the collaborations meaningful!
- **Contribution to the IAI Network:** In addition to promoting new collaborations across disciplines, institutions and countries, the IAI also hopes to increase the quality, effectiveness, and distribution of research results. Describe how data and results will be made available.
- **Access to Research Sites:** This is not relevant to all proposals. Proposing institutions that maintain control over research sites should guarantee free access for all researchers involved in the project.
- **Providing Opportunities for Education and Training:** This is not required, but it certainly can be a large “plus”. The IAI places great emphasis on including capacity-building components in all of its programs, and this component should be given much consideration during proposal development! And, if students or training is involved it should go beyond adding a student or a post-doc to the salary line of the proposal. Look for ways to actively involve students and others in the international, inter-institutional aspects of the proposal. Would a graduate student from one country benefit from a summer visit to another lab to learn some techniques, or from a year at another institution to take courses and learn techniques? Will the student have access to equipment at his/her home institution? Would it be useful to set up a training course at one or more of the sites? Would the project benefit from workshops? Consider what specific activities could be done to enhance the long-term capacity of institutions and individuals involved in the collaboration, and then make it an explicit part of your proposal.
- **Appropriateness of the Budget:** Try to keep the budget reasonable given the size of the program budget (\$2 million for the two ISP rounds); The IAI has stated it hopes to fund 15-20 proposals total for the two rounds, and allocated \$1 million for the first round. That leaves \$1 million to fund proposals from the Feb. 15 deadline. Do the math, and keep

the budget appropriate. Every line item will be scrutinized, so be sure to justify each!

• **Standardized Data Collection and Dissemination**

Methods: This is not relevant to all proposals, but if it does apply, be sure to describe what will be done to ensure the data is comparable and easily obtainable.

3) Don't forget that the "lead" institution must be in one of the 11 countries that has fully ratified the IAI

Agreement: Argentina; Brazil; Canada; Chile; Cost Rica; Cuba; Mexico; Panama; Peru; USA; or Uruguay. Reviewers were not sympathetic towards a few proposals which seemed to be more collection expeditions by PI's from one "lead" country than collaborations. Collaborations should be as balanced as possible among the participating institutions.

4) My final advice is to contact the IAI Program Director before submitting a proposal: Dr. Paul E. Filmer, IAI Program Director, National Science Foundation, Suite 705, 4201 Wilson Boulevard, Arlington, VA 22230. (Tel: 703-306-1515; Fax: 703-306-0091; pfilmer@nsf.gov).

If the suggestions above seem horribly complicated, please blame me and don't give up! The suggestions here are critical to the development of a any good proposal and are tasks you should all be doing anyway—the only real differences for proposals submitted to the IAI are the strong, interdisciplinary and international component and the opportunities for international collaborations. What a wonderful difference!!! We have so few mechanisms for funding true collaborative, international research. This is a golden opportunity for those of you with such interests. I hope you will take advantage of it!

**ECOLOGICAL ANALYSIS AND SYNTHESIS:
CALL FOR PROPOSALS**

Scott D. Cooper, Dept. Biology, University of California, Santa Barbara, CA 93106 (Tel: 805-893-4508; Fax: 805-893-4724; sciiocer@lifesci.ucsb.edu)

The newly established National Center for Ecological Analysis and Synthesis (NCEAS) solicits proposals for collaborative research to synthesize existing ecological data and/or theory to address major fundamental and applied problems in ecology.

NCEAS was founded in May, 1995 and has been funded for an initial five-year period by the National Science Foundation with additional support from the State of California. The center is affiliated with the University of California at Santa Barbara and is located off campus in downtown Santa Barbara. Facilities include offices, meeting rooms and extensive computing capability.

The Center's focus is collaborative, basic and applied research on the structure and dynamics of ecological systems. The areas of emphasis for the first two years are: Spatiotemporal Dynamics and Ecosystem Management. Proposals for research not falling within these areas but of a highly innovative and synthetic nature will also be considered.

In the area of Spatiotemporal Dynamics, proposals are sought that integrate spatial analysis and temporal dynamics to solve ecological problems. These could involve syntheses

of multiple data sets, exploration of new methods of analysis or types of spatial data, or comparisons of theoretical approaches. Examples include (but are not limited to):

- Comparison of alternative theoretical approaches for explicitly modeling the spatial component of dynamical processes in ecological systems.
- Linking geographic information system data for particular landscapes with the dynamics of focal species, or other ecological units, on those landscapes.
- Compilation, synthesis, and analysis of existing long-term data on population numbers, biomass, production or other ecological processes.
- Integration of spatial dynamics of physical-chemical processes with spatial dynamics of biotic processes and population interactions.
- Exploring the use of large-scale spatial data and models for biodiversity protection, reserve design and land management.

In the area of Ecosystem Management (EM), proposals are sought that develop the ability of ecology to support ecosystem management. EM encompasses all traditional foci of ecology, including populations, communities, ecosystems and landscapes. Examples include, but are not limited to:

- Models that address the complexity, interconnectedness, variability and mutability of managed ecological systems.
- Issues of spatial-temporal scaling or levels of aggregation for EM.
- Integration of management and ecological information across multiple scales.
- Interactions of humans and ecological systems, including synthesis of ecology and economics.
- Adaptability of ecological and management systems.
- Projects designed to promote and improve communication between scientists and managers.

NCEAS does not intend to fund collection of new data. Instead, funds will be used to support activities aimed at integrating existing theory and information to search for general patterns and to help address important environmental problems. Sponsored activities include research workshops, training workshops, working groups, resident and postdoctoral fellows. Long-term working groups of 6-10 individuals will reside at the Center for one to six months of intensive collaborative research, and will normally end with an open conference hosted by the Center. Short-term working groups will be of similar size but convened for periods up to one month of intensive effort, and may also meet on a number of occasions over several years. Resident fellows (typically individuals on sabbatical leave) will be appointed for periods up to a year, postdoctoral fellows typically for two years.

At current funding, the center can support on the order of 5 short-term working groups, 2 long-term working groups and 6 resident fellows in 1995-1996, and twice this number in subsequent years; about 6 postdoctoral fellows can be supported in all years. Allocation of funds among categories will be flexible. Applicants are encouraged to consider additional funding sources to leverage NCEAS resources. For this calendar year the target dates for receipt of proposals are September 1, 1995 and December 31, 1995. Proposals

should not exceed 2000 words (excluding references and CVs) and should be organized as follows: (1) Title and Summary, (2) Problem Statement, (3) Rationale for NCEAS support, (4) Proposed Activities and Timetable, (5) Anticipated Results and Beneficiaries, (6) Required Resources, (7) Curriculum Vitae of Key Participants (2 page limit for each). Required resources should be described in terms of Travel (number of round trips and destinations), Per Diem (number of participant-days), and Other Anticipated Needs.

Proposals will be reviewed by the Science Advisory Board and final awards made by the Director based on the quality of the proposal, its fit with NCEAS goals and objectives, likelihood of tangible success, and the availability of Center resources. Proposers will receive only very brief comments on their proposals.

Individuals may submit who hold a position in a U.S. organization, including academic institutions, free-standing research institutions, scientific societies, or a consortium of such institutions with appropriate research and educational programs.

Additional information, including the initial center proposal which contains detailed descriptions of the various sponsored activities (working groups, fellowships etc), is available via the World Wide Web at www.ceas.ucsb.edu, or by contacting the center directly. Phone: 805-893-7670; Fax: 805-893-3777; e-mail: admin@ceas.ucsb.edu.

HOLGER W. JANNASCH ELECTED TO THE NATIONAL ACADEMY OF SCIENCES

Susan Weiler, ASLO Executive Director

Recognized for “distinguished and continuing achievements in original research”, Holger Jannasch was one of 60 new U.S. members and 15 Foreign Associates elected this summer to the U.S. National Academy of Sciences. He has worked in a variety of marine and freshwater environments, and has made contributions which have influenced most areas of microbial ecology.

Jannasch was born in Holzminden, Germany in 1927 and received his Ph.D. in biology from the University of Göttingen in 1955. After various interim positions (see below), Jannasch joined the WHOI staff in 1963 and remains active in research and education activities. He has authored more than 160 scientific publications, served as the director of the Microbial Ecology Course at the MBL from 1971-1980 and later became the “founding father” of a new MBL course in basic microbiology.

The NAS is a private organization of scientists and engineers dedicated to the furtherance of science and its use for the general welfare. The Academy was established in 1863 by a congressional act of incorporation, signed by Abraham Lincoln, that calls upon the Academy to act as an official advisor to the federal government, upon request, in any matter of science or technology. The total current active membership is 1,733.

The above information was condensed from the May/June, 1995 WHOI Newsletter. Through the wonders of e-mail, I was able to “interview” Holger for this article:

Q: How did you first get interested in microbial biology in general, and aquatic science in particular?

A: Circumstances and people more than own determination. I wanted to be a forest ranger, an old traditional profession in Germany. But required to do some practical work before becoming a student during those post-war days, I spent almost a year on a bird island as warden 15 miles of the coast surrounded by intertidal flats, getting an influential whiff of the ocean. Coming to Göttingen, I worked in the University’s zoological collection under a Russian emigrant professor, Dr. D. Beling, the former director of the Hydrobiological Station at Kiev. Subsequently I became a junior founding member of the River Station Freudenthal, a typical post-war euphoric undertaking which, however, caught the eye of Prof. Thienemann of the Limnological Station at Plön. Our students endeavor became later part of the Max-Planck-Society with the River Station at Schlitz. Protozoa were my interest but lacking the guiding spirit, an enthusiastic advisor, it turned to the bacteria. A solid up-to-date knowledge of one group of organisms seemed to be important for me to feel comfortable in and outside of limnology. Furthermore, microorganisms don’t care so much whether they live in rivers, lakes or the ocean. Limnology and oceanography have never been far apart to me, and the U.S. is wise and lucky in demonstrating this unity by publishing a journal covering both fields side by side. Before my final exam I spent some time at the Zoological Station at Naples, Italy, where I learned to cherish the international flavor of science. There I met C. E. ZoBell, a microbiologist at the Scripps Institution of Oceanography, who kindly offered me a Rockefeller stipend. At the same time Thienemann signed me on at Plön with a leave of absence (awaiting the building of a new lab) in order to let me “go in the world and learn your trade” first.

I never came back. Well, not quite. Thienemann and his rare mind as a specialist and generalist at the same time (his personal grasp of microbiology was fascinatingly modern) attracted me greatly. He passed away just as I came home, and the new Plön was not the same. I quit my job there and went back to the Microbiology Department at Göttingen where a lot was going on. In the U.S. Thienemann’s counterpart for me became C. B. van Niel at Hopkins Marine Station, Pacific Grove. I spent the most productive time of my microbiology training there starting with one of his famous summer courses. He taught me what it takes to sense the privilege of being a scientist. Subsequently I had the chance to work at Madison, Wisconsin, a productive 9 months I owe to A. D. Hasler. Back at Göttingen job offers from Woods Hole and Seattle reached me. I took the former because they were willing to wait another 2 years, enabling me to complete my stipend-based obligations as an assistant at the University. My leaving for the U.S. was never meant to be for ever but it turned out that way. When offers from Germany came, it was too late. I was deeply into research and could not bring it over me to quit an interesting ongoing project in favor of a prestigious career of a German professor. I never regretted coming to Woods Hole not knowing, of course, what would have happened to me at UW at Seattle.

May be two Banses there would have been too much.

Q: What prompted you to come to the U.S? Do you think it is now easier or more difficult for scientists to receive funds to work in different countries?

A: Again: opportunities and people, most of them in the U.S. I think it was much easier then to get funding, and the work was less characterized by funding restrictions. That leads to the strange paradox: the less money the lower the efficiency of its use for research. The setting of priorities eliminates a lot of originality and furthers routine work. This is the same in every country. But through its liberal policies of relatively rich funding agencies for fewer scientists than today, the U.S. did fantastic spurts forward in the biosciences during the period from the 1960s to the mid 1980s. I am indefinitely grateful for having been around during that time.

Q: Any advice to graduate students and recent Ph.D.s about how to build a successful and satisfying career?

A: Seek the best people in your field of interest, learn from them and try to earn their interest in your ideas and possibly respect. Go where the quality is highest, this is not necessarily where the money is. Work on questions that are fundamental and get solid publications. We are all human: the satisfaction in your work comes with its acknowledgment first of your superiors then of your colleagues, those who you equally respect. That results in independence in your choice of work, even where and with whom to work. In our profession we truly have the chance to be paid for doing what others would consider a hobby. I admit, this classical luster of a scientist's existence may experience a dip at the moment but I think this is temporary.

Q: Anything else you'd like to add?

A: To anyone who read this so far: I took enough of your time. Just one closing remark for our students: If you want to see the world as a natural scientist, no profession gives you such a wealth of chances. At Woods Hole I grew into an oceanographer, learned the love to be at sea and saw many ports and their countries. I could not help remaining a limnologist at the same time and had opportunities to work on the salt-tolerant phototrophic bacteria in Egypt's Wadi el Natrun, methane oxidation in Lake Kivu of eastern Zaire and the history of algal and bacterial pigment deposition in Lake Zabuye of central Tibet (at 4400m, a fantastic contrast to being down 4000m with ALVIN). I obviously admit also to a mix of romantic (in the classical sense) /adventurous /exploratory inclinations which may not be everyone's cup of tea.

GEORGE KLING RECEIVES PRESIDENTIAL FACULTY FELLOWSHIP

John E. Hobbie, Marine Biological Laboratory, Woods Hole, MA 02543

George W. Kling of the Department of Biology, University of Michigan, has received a Presidential Faculty Fellowship. Each year the National Science Foundation chooses 30 young faculty members to receive an award of \$100,000 per year for up to five years. This award recognizes exceptional research and teaching ability as well as the potential for outstanding contributions.

George received his undergraduate degree in 1982 at the

University of Colorado, where he worked in Bill Lewis' lab. He received his doctorate in zoology in 1988 at Duke University, where he studied with Dan Livingstone. Before he joined the University of Michigan in 1991, George received postdoctoral training at The Ecosystems Center of the Marine Biological Laboratory in Woods Hole.

George teaches limnology, oceanography and ecosystems ecology with a special interest in geochemistry. This interest nearly ended his career in 1986, when he sampled a number of volcanic lakes in Cameroon, West Africa, including Lake Nyos. Because this particular lake was difficult to reach, he left his regular sampling equipment behind and only collected surface water. Weeks later a huge release of supersaturated carbon dioxide caused a fountain 200 meters high in the lake. A dense cloud of CO₂ escaped, rushing down the drainage basin and killing 2,000 people.

George was chosen as a member of the U.S. State Department scientific team to investigate the catastrophe. He discussed the causes and consequences of this disaster as lead author in two papers in *Science* in 1987, a paper in *Limnology and Oceanography* in 1988, and two papers in *Nature* in 1989 and 1990, the first by Kling and three co-authors and the second by Kling and six co-authors and the second by Kling with three co-authors. The deep-water CO₂ supersaturation of Lake Nyos is steadily increasing again today. George and others are trying to obtain government support to install a device to circulate the water and avoid another eruption.

During his postdoctoral years, George worked on a sulfate project led by Anne Giblin and on the Arctic Long-Term Ecological Research (LTER) project with myself, Bruce Peterson, and Brian Fry. In a paper with Fry and W.J. O'Brien on stable isotopes in the plankton of an arctic lake (*Ecology* 1993), he reported on one of the first lake studies to use nitrogen-15 as an indicator of trophic level of zooplankton and fish. He also organized the first whole-lake addition of ¹⁵N to analyze the pathways and dynamics of the planktonic food chain.

George's work on the carbon budget of the tundra ecosystem represents another major contribution. In a 1991 article in *Science* with G.W. Kipphut and M.C. Miller, he reported that the movement of soil water from the tundra to streams and lakes transports large amounts of CO₂, which subsequently enters the atmosphere. This pathway is an important and previously unnoticed conduit of CO₂ to the atmosphere. This study, which continues, involves measuring the partial pressure of CO₂ in water from soils, streams and lakes, tracing the atmospheric transfer of CO₂ from streams with SF₆, and using eddy flux measurements in cooperation with F.S. Chapin to observe the transfer of CO₂ from lakes to the atmosphere.

Along with Jonathan Cole, Tim Kratz and Nina Caraco, George is carrying out comparative research to discover the importance of soil water as a contributor to the supersaturation of CO₂ that occurs in many temperate lakes. He continues his work in the Arctic as leader of the land-water section of the LTER project and his work in Africa as leader of a

multinational project on Lake Victoria investigating the causes of the recent changes in productivity.

George is known for his wide network of friends and acquaintances and his high level of energy. Famous for his 16-hour work days at the Toolik Lake LTER site, he is usually the last one to leave the laboratory bench after a day spent collecting samples. Around 1 A.M. he generally moves to the computer room, where he harasses the game players so that he can get on electronic mail. He is also a noted connoisseur of beers and ales and regularly organized tasting parties during his Woods Hole years. He also found time to play tennis against the local Cape Cod champion, ski the expert trails of New England and keep his golf game at a high level.

WORKSHOP TACKLES THE CHALLENGES FACING COASTAL LABORATORIES

Thomas C. Malone, *Horn Point Environmental Laboratory, P.O. Box 775, Cambridge, MD 21673 (410-221-8406; malone@hpel.umd.edu)*

The scope of activities and roles of coastal laboratories are changing as new technologies increase the capacity to collect and exchange data; as scientists and the public become more aware of the complexities of environmental problems; and as problem-driven, interdisciplinary approaches to these problems are pursued. The pressures associated with these changes are compounded by growing demands of the public, elected officials and the environmental management community for research that is more relevant to education and the quest for solutions to environmental problems. At the same time, funding for research on organisms and ecosystems that constitute the land-sea interface is declining while environmental problems related to human activities are increasing. With these competing demands in mind, representatives of a broad spectrum of public and private institutions involved in environmental issues of the coastal zone met in Sarasota, FL (24-27 October) to discuss the opportunities and challenges facing U.S. coastal laboratories in research, education, and public outreach.

In preparation for the workshop, position papers were prepared and presented as topics for discussion as follows: (1) "Toward a National Agenda for Research in the Coastal Zone: A Synthesis of Long Range Plans and Recommendations" by T.C. Malone and D.A. Nemazie; (2) "Regional Marine Research — What is it? Why do it? What Role should NAML Play" by S.W. Nixon; (3) "Role of Coastal Marine Labs in Interdisciplinary Research" by D.E. Morse and K.H. Neelson; (4) "The National Association of Marine Laboratories: A Connected Web for Research and Monitoring in Coastal Systems" by R.J. Feller and D.M. Karl; (5) "Integrating Research and Education with Public Outreach at Coastal Marine Laboratories" by J.D. Milliman; (6) "Coastal Laboratories and Environmental Management Agencies: Building Better Bridges" by J.R. Schubel; and (7) "Toward Designing and Networking the Infrastructure of Coastal Laboratories" by K.R. Tenore. Results will be presented for discussion and comment at the Estuarine Research Federation meeting in Corpus Christi 12-16 November, 1995 and at

the Ocean Sciences meeting in San Diego 12-16 February, 1996. Conclusions and recommendations will be published, along with the position papers, in a special issue of the *Biological Bulletin*, to be released in Spring 1996.

Please contact me for more information.

TERMINOLOGY — JUST WORDS.

Holger W. Jannasch, *Woods Hole Oceanographic Institution, Woods Hole, MA 02543 (hjannasch@whoi.edu)*

In an earlier *ASLO Bulletin*, Susan Weiler encouraged provocative, entertaining, clarifying or other types of comments. I may volunteer one on terminology, meaning it to be entertaining.

Recently a word caught my eye, that I had seen before, but now even as part of a book title: psychrotrophic bacteria (1). Maybe I am too picky but the term *-troph* (nutrition, food, or provision), in my mind, refers to a metabolic quality. If bacteria obtain their energy from light, they are *phototrophic*, and they are *chemotrophic* if they use the chemical energy from the oxidation of organic or inorganic compounds. Those that get their carbon mainly from CO₂ are *autotrophs*, and *heterotrophs* get it from (*hetero-* = "other") largely organic carbon sources. *Organotrophy*, on the other hand, refers to an organic source of the necessary electrons, while the use of an inorganic source of electrons is designated by the term *lithotrophy* (*litho-* = stone, mineral). Now where does this leave *psychrotrophy*? Do organisms make a living by using low temperature in one of the above ways? *Psychrophilic* (cold-loving) indicates an adaptation to low temperature in the same sense as *thermophiles*, *halophiles*, *acidophiles* and *barophiles* are adapted to high temperatures, salinities, acidity or pressure, and so on. There are ranges of these adaptation, of course: moderate and extreme psychrophiles, etc. But if a new term for such a differentiation was felt to be needed, the switch from *-phily* to *-troph* is an unfortunate creation of a misnomer. How would we define bacteria such as *thermotrophs*, *barotrophs*, *acidotrophs* and the like?

Why so much fuss about a mere case of terminology? Simply because language is the main tool for the communication of thoughts and ideas in all sciences, and a carelessly created term can lead to misunderstandings as a badly designed hammer can lead to bloody fingertips. Making a living from (sources of energy, carbon and electrons) and making a living at (certain physico-chemical conditions) are two very different things.

Nothing ever is quite as clear-cut, however, as we wish it to be. There is the widely used term *oligotrophic* meaning: being able to live on little (*oligo-* = few), as opposed to *copiotrophic* (*copiosus* Lat. = abundant): requiring a lot. Oligotrophy was originally used by the Swedish limnologist Einar Naumann (I believe) in the early 1920s to describe low nutrient, clear and deep mountain lakes in contrast to the eutrophic ones (*eu-* = well, rich), those shallow green village ponds full of duck-weed. It was only quite recently that the term shifted from describing the nutrient content of lakes to describing the adaptive ability to live preferably at low-nutrient conditions, as in oligotrophic bacteria. They inhabit

(formerly oligotrophic) mountain lakes and the pelagic and deep ocean. Microbiologists, so far, have no clear idea what controls the efficiency of substrate uptake and turnover in these organisms, traits that are expressed by a combination of the kinetic growth constants K_s and μ_{max} (2,3).

Since this area of microbiology is physiologically as well as ecologically of great importance, cleaning up house according to the above terminological discussion might be a good idea. In defining the adaptations to live at low- or high-substrate concentrations, the particular substrate should be indicated. For instance, bacteria can be oligocarbophilic when growth is limited by the carbon source. I have seen the term oligonitrophilic in the literature describing growth of organisms at extremely low levels of fixed nitrogen. Here, indeed, in contrast to the above case, the endings *-philic* or *-trophic* appear to be interchangeable: a substrate can be utilized as well as stimulate or limit growth by its level of concentration.

While I am at it, let me air another embarrassment that one feels whenever the term *mesophilic* is heard. I assume it had been originally created for preliminary use and was simply placed between *thermo-* and *psychrophilic*. *Meso-* = middle means just that, but middle of what? The term could as well be used for an organism placed between *acido-* and *alkalophiles*, if the word *neutrophile* would not offer itself as a much better choice. While in the case of psychrotrophic the simple solution is drop the term, I am at a loss how to replace mesophilic with a better word. Any suggestion from readers or —of course—to any of the above is very welcome.

References

- (1) Kraft, A.A. 1992. Psychrotrophic Bacteria in Foods: *Disease and Spoilage*. CRC Press, Boca Raton.
- (2) Jannasch, H.W. 1969. Current concepts of aquatic microbiology. Baldi Memorial Lecture. *Verh. Int. Ver. Limnol.* 17:25-39.
- (3) Jannasch, H.W. 1974. Steady state and the chemostat in ecology. *Limnol. Oceanogr.* 19:717-720.

NEW OCEAN COLOR WEB SITE

Rebecca Farr, Lead, Ocean Color Data Support Team, Distributed Active Archive Center, Code 902.2, Goddard Space Flight Center, Greenbelt, MD 20771 (Tel: 301-286-3029; Fax: 301-286-1775; fax farr@daac.gsfc.nasa.gov

We have just released a 90+ page web site on Ocean Color, a discipline which uses data collected in the visible light bands by satellites and aircraft to measure ocean primary productivity (plankton abundance) and physical oceanographic features.

This web site is intended to be a universal meeting place and source of ocean color-related information, data, documents and software for educators and scientists in general and oceanographers in particular.

The Ocean Color section is a branch off of the NASA Goddard Space Flight Center Distributed Active Archive Center's main homepage and is located at

http://daac.gsfc.nasa.gov/CAMPAIGN_DOCS/OCDST/ocdst_main.html

THIS YEAR, DO YOUR SCIENCE A FAVOUR: NOMINATE A COLLEAGUE

Robert H. Peters, ASLO Awards Committee Chair, Dept. Biology, McGill University, 1205 Ave. Docteur Penfield, Montreal, QC H3A 1B1 (eh32@musica.mcgill.ca)

Robert Merton, the great pioneer of the sociology of science and scientists, identified recognition by our peers as a major reward for a life in science. Researchers endure long hours of objectively dull work for modest pay in part because we value and seek the good opinion of our colleagues. In turn, we reward those whose work we see as important with our own recognition. For most of us, this recognition takes the form of reprint requests, citations and, more rarely, a verbal clap on the back at a conference or scrawled in the corner of some mail. Still more rarely, it takes the form of an award or prize.

There are only a limited number of awards available in any discipline. The American Society of Limnology and Oceanography offers three per year. Our prizes do not carry the heavy weight of publicity or stardom. They are given by professionals to professionals. They represent the rare coin of peer recognition, and so they reward and encourage outstanding contributions to our science.

Most awards and prizes in science, including ASLO's, attract only a handful of nominations. Our collective failure to recognize each others' significant contributions does not reflect meanness in the research community, nor a lack of deserving candidates. All of us willingly acknowledge individuals and research programs that have profoundly affected our science, and promising young researchers whose exciting work deserves encouragement. I suspect we are dissuaded from nominating our favorites by the seemingly unfavorable odds against success. After all, there are almost 4,000 ASLO members. In fact, the rate of nomination for most awards in science is so small that the chances of the nominees are considerably better than those of applicants to NSF. However, an awards nomination demands far less effort than an NSF application.

There are many good reasons to nominate a colleague for an ASLO award and no good excuses not to do so. The ASLO awards offer a chance to promote science that we, as individuals, see as exciting and remarkable. This recognition may help the recipients in their career, may reflect some glory on the recipients' co-workers and institutions, may encourage others to try harder, but mostly it will show the recipients that their efforts are appreciated by the community. It will show our generosity of spirit.

Awards and nomination procedures are outlined in this issue of the *Bulletin*.

DEADLINE FOR NOMINATIONS:

FEBRUARY 15, 1996

ASLO AWARDS

DEADLINE FOR NOMINATIONS: FEBRUARY 15, 1996

ASLO awards provide opportunities to recognize outstanding individual performance and to highlight accomplishments of the aquatic science research community. The 1996 awards will be presented at the June 16-20 meeting in Milwaukee, Wisconsin. Please take the time to nominate your colleagues for these awards. Previous recipients are recognized in the Handbook portion of the new ASLO Membership Handbook and Directory.

Raymond L. Lindeman Award

This annual award in honor of Raymond L. Lindeman (1915-1942) was first presented in 1987 to recognize an outstanding paper written by a young aquatic scientist. The initial gift to create a fund for the Lindeman award was made in 1986 by Lindeman's colleague in graduate school, Charles B. Reif of Wilkes College, PA. Lindeman received his Ph.D. in March, 1941 from the University of Minnesota, and began postdoctoral work with G. Evelyn Hutchinson at Yale that September. His career was cut short by his death in April, 1942; he was only 27. The paper for which he is most remembered was published posthumously in 1942 (The trophic-dynamic aspect of ecology, *Ecology* 23:399-418). The paper is the result of his thesis work on Cedar Creek Bog, Minnesota; he already had a draft version completed when he joined Hutchinson's lab. Hutchinson was instrumental in getting the paper accepted for publication (it was initially rejected by reviewers!). This paper has since become the foundation for research on the flow of energy in plant and animal communities. To learn more about Lindeman, read:

Cook, R.E., 1977. Raymond Lindeman and the trophic-dynamic concept in Ecology. *Science* 198:22-26.

Reif, C.B., 1986. Memories of Raymond Laurel Lindeman. *Bulletin of the Ecological Society of America* 67:20-25.

Eligible papers must deal with aquatic sciences, be written in English by an author who is no older than 35 years in 1994, and must be published in a 1994 volume of a peer-reviewed journal. Nominations should include a copy of the paper and a brief letter describing the impact of the paper on the field. Send nominations to:

Robert H. Peters, Lindeman Award Committee Chair, Dept. of Biology, McGill University, 1205 Ave. Docteur Penfield, Montreal, QC H3A 1B1, CANADA (rpeters@bio1.lan.mcgill.ca)

G. Evelyn Hutchinson Award

The G. Evelyn Hutchinson Award has been presented annually since 1982 to recognize excellence in any aspect of limnology or oceanography. The award is intended to symbolize the quality and innovations toward which the society strives and to remind its members of these goals. In lending his name to the award, Hutchinson asked that recipients be mid-career scientists who had made considerable contributions to knowledge, and whose future work promised a continuing legacy of scientific excellence.

Emphasis in selection will be given for work accomplished during the preceding 5-10 years. Each nomination must be supported by a letter (not to exceed two pages) on qualifications. Ideally this letter should include statements that would form the basis of the presentation speech at the ASLO meeting. The nomination package may also include a list of important publications and other pertinent information, but in total this package shall be no more than 3 pages. The nomination should also be supported by 3 letters of endorsement of no more than 1 page each. These may be mailed separately or be included in the nomination package. The supporting letters should indicate the breadth of support for the nominees and the perspectives of different individuals to clearly indicate the contributions of the nominees in all their areas of expertise. Send nominations to:

JoAnn M. Burkholder, Hutchinson Award Committee Chair, Dept. of Botany, Box 7612, North Carolina State University, Raleigh, NC 27695-7612 (joann_burkholder@ncsu.edu)

Lifetime Achievement Award

The Lifetime Achievement Award was first presented in 1994 to recognize and honor major, long-term achievements in the fields of limnology and oceanography, including research, education and service to the community and society.

Emphasis in selection is given for contributions of any aquatic scientist whose work continues to be recognized for its importance and long-term influence. Each nomination must be supported by a letter (not to exceed two pages) on qualifications. Ideally this letter should include statements that would form the basis of the presentation speech at the ASLO meeting. The nomination package may also include a list of important publications and other pertinent information, but in total this package shall be no more than 3 pages. The nomination should also be supported by 3 letters of endorsement of no more than 1 page each. These may be mailed separately or be included in the nomination package. The supporting letters should indicate the breadth of support for the nominees and the perspectives of different individuals to clearly indicate the contributions of the nominees in all their areas of expertise. Send nominations to:

Catherine M. Pringle, Lifetime Achievement Award Committee Chair, Inst. of Ecology, University of Georgia, Athens, GA 30602 (pringle@sparrow.ecology.uga.edu)

UNOLS CRUISE WEDDING

The hurricane punch of the 1996 season in the Atlantic Ocean wasn't enough to dispell the vows of Russell Cuhel and Carmen Aguilar. In a balmy sunset ceremony aboard the R/V CAPE HATTERAS (Cruise 1495, narrowly missed by Hurricane Marilyn), the two dedicated themselves to each other and to oceanography on the autumnal equinox at 32° 26'N, 74° 37'W. Officiants included Captain Richard Oagus; Matron of Honor and Chief Scientist Marilyn Fogel; and Best Dude and Marine Technician Jonathan Bowden. A spectacular wedding feast was presented by Chief Steward Bob Lipscomb. The couple received a framed photograph of the vessel which was subsequently signed by all on board. Afterwards, Station 5 (Sargasso Sea) was continued.

The cruise was the sixth in a series of NSF-Oceanography funded investigations concerning atmospheric nitrogen deposition effects on coastal and Sargasso Sea plankton communities. Dr. Aguilar's component included stable isotope analysis of plankton standing crops and changes induced by rain (as well as nitrate and ammonium) enrichment, chlorophyll a and protein measurement, and photosynthesis-irradiance-based primary productivity determination. Dr. Cuhel provided real time nitrate analysis of water column and rain samples, bacterial protein synthesis rate measurements, and primary productivity determination. Previous cruises included before-and-after investigation of standing crops, sensitivity to enrichment, and rate measurements for microbial populations immediately before and after passage of Hurricane Gordon (November 1994).

Dr. Cuhel is a graduate of the WHOI/MIT Joint Program in Oceanography (1981) and is currently an Associate Scientist at the University of Wisconsin-Milwaukee's Center for Great Lakes Studies. Dr. Aguilar is a graduate of the University of Wisconsin-Milwaukee and is currently a post-Doctoral Investigator with the Geophysical Laboratory at the Carnegie Institution of Washington and the Institute of Marine Science of the University of North Carolina-Chapel Hill. The bride is now looking for work in the Milwaukee area.

On-Line Discussion Group for Graduate Women in Science

Graduate Women in Science (GWIS) is a discussion group with 1,500 members worldwide. Topics of discussion include everything from advice to graduate students to starting a family and "having it all." Members include women with graduate degrees in the sciences (not just students!). To sign up, e-mail Sheri Cole at sheri_cole@sombsb.ucsd.edu

SURVEY SEEKS TO DETERMINE WHAT GRADUATE STUDENTS CAN EXPECT TO FACE AS THEY PREPARE FOR AN ACADEMIC CAREER

Lorin Hatch, Tahoe Research Group, Division of Environmental Studies, Wickson Hall, University of California, Davis, CA 95616 (lkhatch@ucdavis.edu)

I am currently a doctoral student studying Lake Tahoe watershed processes under the guidance of Charles Goldman. I am also one of 25 students selected to participate in a program at UC Davis that prepares graduate students for careers as college instructors.

The Program in College Teaching (PCT) at UC Davis requires its participants to co-teach a course with a faculty mentor in their field, exploring in depth all of the nuances involved in delivering a course. The PCT also requires the completion of seven Activity Contracts, which are designed by the participants. The areas addressed include: preparing to teach, accommodating diversity and providing equity in the classroom, considering the ethics of the academy, planning professional development, understanding the academic career, and continuing the development of a personal teaching philosophy. Participants are also required to attend a series of meetings called Teaching Roundtables where presentations are given and general debate is held regarding topics in academia.

I am asking for your help to aid me in the completion of this program. I would like to satisfy one of the Activity Contracts (Understanding the Academic Career: the life of the teaching faculty) by surveying ASLO members for their academic experiences. As a graduate student, the challenge of ascending the academic ladder seems daunting. You can help me and other graduate students by providing some guideposts for our journey. The results of the survey will also be of interest to you as a faculty member, giving you insight into student/advisor relations and the future of the fields of limnology and oceanography in general.

Please read the survey carefully and then take time to reflect upon the questions. Feel free to include additional comments and/or use extra paper where you feel necessary. The information you provide will be summarized so that your identity is not revealed.

The results will help me complete the PCT and will also be presented at the Education Workshop at the 1996 ASLO meeting in Milwaukee. Results will also be available upon your request at my address. Please note that I have deadlines to meet regarding this survey. Please complete and send in the survey before **March 15, 1996**: I will need adequate time to synthesize the information for the PCT (which ends at the completion of the 1995-1996 school year) and for the June ASLO meeting. Thank you for your help.

Survey to Inform Graduate Students About Academic Careers in Limnology and Oceanography

Use separate sheet if necessary

BACKGROUND: Information regarding your experiences will help me greatly in the categorization and interpretation of all the surveys.

Year of birth: _____; Gender: male/female; Highest degree _____; year obtained 19_____

Primary area of interest: _____ limnology _____ oceanography

Years on "soft money" (postdoctoral) _____

Year of first (non-student status) academic appointment _____

Have you been employed at more than one institution? _____

If yes, how many? _____ Number of years at current institution _____

Number of graduate students currently under your supervision _____

Total number of students completing M.S. _____ or Ph.D. _____ under your supervision

Choose the category that best describes your institution: _____ 2-year or _____ 4-year undergraduate;
_____ undergraduate + masters; _____ undergraduate through Ph.D.

Which is the predominant type of job your present institution trains its graduate students for:
_____ Non-Academic _____ Academic

1. What was the best decision you made to advance your career (during/after graduate school)?

2. What was your worst decision?

3. If an opening in your field became available at your institution, what top three qualities would you deem desirable in an applicant?

4. What do you see as the biggest stumbling block to graduate students pursuing an academic career in your field?

5. What would you recommend to reduce the size of the stumbling block?

6. What advice would you give to graduate students pursuing an academic career in your field?

7. Do you think the number of Ph.D. students in your field should be reduced? _____ yes _____ no

8. Do you think the Ph.D. degree should be oriented to train students for jobs outside of academia? _____ yes _____ no

PLEASE RETURN TO: Lorin Hatch
Tahoe Research Group
DES - Wickson Hall
University of California
Davis, CA 95616

Fax: 916-752-3550; lkatch@ucdavis.edu • **Deadline for receipt: March 15, 1996**

JOBS

MICHIGAN STATE UNIVERSITY, APPLIED LIMNOLOGIST Tenure-Track, Assistant Professor

The Department of Fisheries and Wildlife at Michigan State University invites applications for a 12-month, tenure-track, applied limnologist position at the assistant professor level. The Ph.D. is required and preference will be given to applicants with strong quantitative skills and experience in the evaluation and management of ecosystems. The ability to teach undergraduate courses in limnology and limnological techniques and a graduate course in advanced limnology is required, as is the ability to develop an active research program on Michigan's inland lakes, including issues relating to water quality, aquatic plant management and fisheries management. The abilities to advise undergraduate and graduate students, to work effectively with state, federal, and private organizations, to obtain research grants, to conduct research and to publish findings are expected.

APPLICATION DEADLINE: DECEMBER 15, 1995. Salary is competitive, commensurate with education, experience and demonstrated ability. Interested persons should submit a letter of application stating professional goals and objectives, a curriculum vitae with supporting materials including transcripts, and three letters of reference to:

Dr. Thomas Coon, Search Committee Chair, Department of Fisheries and Wildlife, 13 Natural Resources Building, Michigan State University, East Lansing, MI 48824. Tel: 517-353-3373; FAX: 517-432-1669; E-MAIL: COONTG@msu.edu

Michigan State University is an equal opportunity/affirmative action employer. Minority and women candidates are encouraged to apply. Handicappers have the right to request and receive reasonable accommodation.

GRADUATE STUDENT FELLOWSHIPS, LOUISIANA STATE UNIVERSITY

The Department of Oceanography and Coastal Sciences, Louisiana State University, has several 4-year Graduate Fellowships for highly qualified Ph.D. students. These include \$16,000/yr and tuition. Minority student applications are especially sought. Inquire at the Department of Oceanography and Coastal Sciences, Louisiana State University, Baton Rouge, LA 70803 (Tel. 504-388-6308 Fax. 504-388-6307).

GRADUATE TRAINEESHIPS AND TRAVEL FELLOWSHIPS, UNIVERSITY OF MINNESOTA

The interdisciplinary Research Training Group (RTG) in ecology, geology, archaeology, geography, and soils at the University of Minnesota offers the following training opportunities in "Paleorecords of Global Change."

Graduate Traineeship: 4-year traineeships for graduate study. Application deadline: January 1.

Travel Fellowship: Graduate students are invited to Minnesota for up to 3 months of graduate study. Stipend, travel and living allowance, and tuition provided. Application deadline: April 1 (for travel July 1 - December 31 and October 1 (for travel January 1 - June 30).

Only citizens, nationals, or permanent residents of the U.S. qualify for stipends. An equal opportunity educator and employer. For application contact Barbara Eastwold, RTG, U of MN, Ecology, Evolution and Behavior, 1987 Upper Buford Circle, St. Paul, MN 55108. Phone: 612-624-4238; Fax: 612-624-6777.

Check out and post jobs on the ASLO Homepage

<http://www.ngdc.noaa.gov/paleo/aslo/aslo.html>

ASLO MEETINGS

1996 ASLO ANNUAL MEETING, MILWAUKEE, WI, JUNE 16-20

Arthur S. Brooks, ASLO-96, Center for Great Lakes Studies, University of Wisconsin-Milwaukee, 600 East Greenfield Ave., Milwaukee, WI 53204 (Tel: 414-382-1704, Fax: 414-382-1705; abrooks@csd.uwm.edu)

The call for papers for the June, 1996 ASLO meeting in Milwaukee is at the printers and will be in the mail shortly. The deadline for abstract submission is January 15, 1996. In the meantime, if you are anxious to get started, abstract submission forms and registration information may be obtained on the ASLO Homepage

<http://www.ngdc.noaa.gov/paleo/aslo/aslo.html>

The Plenary Session will be a truly memorable event. In addition to the presentation of ASLO awards, three Distinguished Professors at the Center for Great Lakes Studies will deliver a series of interrelated lectures. Dr. Clifford H. Mortimer will reflect on his career as a limnologist/oceanographer, following the presentation of his ASLO Lifetime Achievement Award. Dr. Kenneth Neelson will then examine some of the classic questions raised by Mortimer's early geochemical work in terms of modern molecular microbiology. Dr. J. Rudi Strickler will pick up the trail of Mortimer's second career as a physical limnologist with a look, from the zooplankton's view, at the physical environment.

Since the last ASLO news article on the meeting, special sessions have been added and now include: Spined Exotics, *Rae Barnhisel*; Sediment-Water Phosphorus Exchange, *Gertrud Nurnberg*; Inducible Prey Defenses, *Howie Riessen*; Large Lakes of the World, *David Edgington*; session in honor of Joe Shapiro, *Val Smith*; Atmospheric Trace Contaminants, *Carl Watras*; Temporary Habitats, *David G. Jenkins*; Mass-balanced Flux Models in Aquatic Food Webs, *Gertrud Nurnberg*; and East African Lakes, *John Lehman*.

A pre-meeting workshop on spatial statistics will be offered by Dr. Dale Zimmerman, and Sue Weiler will be coordinating a workshop on Undergraduate Aquatic Science Education: Illustrative Materials and Exercises. Ben Cukor will host another exciting program for minorities in limnology and oceanography, which will include a Lake Michigan training cruise on the USEPA RV Lake Guardian. The ship and the Center for Great Lakes Studies will also be open for tours during the meetings.

Finally, don't forget the first, and hopefully annual, ASLO Auction for the benefit of the ASLO Endowment Fund. Bring along or mail ahead items for the auction that will be of value to fellow members. Journals, specimens from exotic lakes or oceans, embarrassing photos of colleagues who would pay dearly for the negative, or any other item of interest would be welcome.

We look forward to seeing both limnologists and oceanographers in Milwaukee next June. It promises to be a great meeting on a Great freshwater ocean. Please let me know if you have any questions.

AGU/ASLO 1996 OCEAN SCIENCES MEETING, SAN DIEGO, CALIFORNIA

Polly A. Penhale, ASLO Secretary (Tel: 703-306-1033; Fax: 703-306-0139; ppenhale@nsf.gov)

The Ocean Sciences Meeting has been the focus of my activities for the past six months. As co-conveners, Suzette Kimball and I have been focusing on the scientific content of the meeting, while the AGU Meetings staff has handled the meeting logistics. We have been pleased to see broad international support for the meeting, as well as considerable interest from students and younger scientists. We believe that this will be the most successful ASLO/AGU partnership yet!

ASLO member Kenneth Webb has joined Suzette and me to help sort abstracts and organize the program. Over 1600 abstracts have been received. This means that attendees will surely find common topics of interest but also means that many who requested oral presentations will be asked to present a poster. Members may prefer one venue or the other, but I've found that poster presentations offer the opportunity for quiet, focused viewing as well as conversation with the author.

The AGU Meetings Staff has worked hard with the Town and Country meeting facility in San Diego to improve service to attendees. We have reserved more and larger meeting rooms and more hotel rooms for the meeting. With regard to meeting registration, you may have utilized AGU's homepage and electronic submission system. I'll admit that it had me confused at first and that the system is not yet completely "user-friendly". Those involved have been keeping records of problems and complaints and will strive to improve the system by the 1998 Ocean Sciences Meeting.

One change from standard practice that ASLO members will note relates to the Abstract Volume. This Volume will only be provided to attendees and only on-site. Of course, the program itself will be available prior to the meeting. If non-attendees wish to purchase the Abstract Volume, it will be available for a charge through the AGU. The issues involve the high cost of paper and postage and the possible wasteful use of paper. The ASLO Board will be discussing this topic for our own meeting. Should we produce and mail abstract volumes to all 4,000 members, when only 15-20% of the membership attends a meeting? How should members subsidize the Abstract Volumes—through dues, registration fees or through a separate fee for those who wish a copy? Please let me know your views on this topic.

ASLO 1997 AQUATIC SCIENCES MEETING, SANTA FE, NEW MEXICO: See next page....

ASLO 1997 AQUATIC SCIENCES MEETING, SANTA FE, NEW MEXICO

Jonathan J. Cole, *Institute of Ecosystem Studies, Cary Arboretum, P.O. Box AB, Millbrook, NY 12545 (Tel: 914-677-5343; 76067.3033@compuserve.com)* and James T. Hollibaugh, *Tiburon Center, San Francisco State University, P.O. Box 855, Tiburon, CA 94920 (Tel: 415-435-7141; jth@mercury.sfsu.edu)* (Program Committee Co-Chairs)

We have been appointed as co-chairs for the ASLO '97 meeting in Santa Fe, New Mexico. The meeting will take place February 10-14, 1997 and will be the only ASLO meeting in 1997.

In the past, members have complained about the timing of the ASLO summer meeting; it seems always to be either *so early* that some members are tied up with end-of-the-year teaching and administrative duties, or *so late* that it interrupts other members' field seasons. Members seemed generally pleased with the timing of the February AGU/ASLO meeting and with the February, 1992 Aquatic Science meeting. The Board has therefore decided to try that timing again. We are

anxious to learn whether members prefer one time of year over another, so please let us know whether you approve of this change.

Those of you who were fortunate enough to attend the ASLO '92 meeting in Santa Fe will remember it as an unusual and particularly pleasant event. The 1992 meeting, with close to 1,200 attendees approached the limit of what Santa Fe could accommodate. Since that time, conference facilities have been enlarged and we anticipate that even with record attendance there will be sufficient hotel and meeting rooms for all.

The Call for Papers will be mailed in early August, with abstracts due in late September or early October.

Please contact me or Tim if you wish to chair a Special Session. Planning for the meeting has just begun. As with last time, a particular effort will be made to encourage special session themes that will combine limnological and oceanographic research and perspectives. This meeting should represent the input of the society-at-large, not just the Program Committee, so please share your ideas with us.

CALENDAR OF EVENTS

NAS Regional Symposia: Creating a National Dialogue on Undergraduate Science, Mathematics, Engineering and Technology

Dates	Locations	Application Deadlines
October 16, 1995	University of Michigan, Ann Arbor, MI	September 22, 1995
November 10, 1995	GTE Labs Conference Ce., Boston, MA	October 20, 1995
January 19, 1996	Johnson Space Center, Houston, TX	December 15, 1995
February 1, 1996	Pomona College, Claremont, CA	January 5, 1996

Topics: Symposia will explore issues in undergraduate education that are common to the science, mathematics, and engineering communities. Help is also requested in planning a series of topical forums that will be held after the Regional Symposia to focus on specific topics related to undergraduate education.

Contact: Regional Symposium Registration, National Research Council HA 486, 2101 Constitution Ave. NW, Washington, DC 20418 (Fax: 202-334-3159; regsymp@nas.edu)

Deep Shelf Fisheries and Resources Conference

Dates: February 1 - 3, 1996 **Location:** Miami, Florida
Topics: Fisheries resources occurring between 400 to 1,000 meters; growth, reproduction, ecology of fishery species, histories of fisheries, and assessments of stocks.
Contact: John V. Merriner, Conference Convener, NMFS, SEFSC, Beaufort Laboratory, Beaufort, NC 28516 (Fax: 919-728-8784; jpotts@hatteras.bea.nmfs.gov)

Plankton Ecology Group Workshop: Trophic interactions of age-0 fish and zooplankton in temperate waters

Dates: February 5 - 8, 1996 **Location:** Dresden Germany
Contact: Thomas Mehner, Institute of Hydrobiology, University of Technology, D-01062 Dresden, GERMANY (mehner@rmhs2.urz.tu-dresden.de)

AGU/ASLO 1996 Ocean Sciences Meeting

Dates: February 12 - 16, 1996 **Location:** San Diego, California
Abstract Deadline: October 2, 1995
Pre-Registration Deadline: January 12, 1996

Post-Graduate Training Course in Limnology

Dates: March - November, 1996

Location: Mondsee and Lunz, Austria

Topics: Physical and chemical properties and processes in lakes and rivers: morphology, water movements, light and heat, geo- and biochemical cycles, fundamentals of water quality assessment and control; groundwater ecology; composition and distribution of organism communities (bacteria, phyto- and zooplankton, macro- and microbenthos, fish) and their role and interactions in aquatic ecosystems; systematic and biological survey of principal taxa; approaches to the assessment of primary and secondary production; analysis of fish populations; limnological aspects of fisheries management; structure and functioning of different types of inland water ecosystems with respect to their natural environment and to human impacts.

Scholarships: Scholarships are available to participants from countries given priority in Australian Development Programmes (Nicaragua, Cape Verde, Uganda, Rwanda, Mozambique, Burkina Faso, Ethiopia, Bhutan, El Salvador, Guatemala, Costa Rica, Senegal, Zimbabwe, Namibia, Tanzania, Burundi, Kenya, Nepal and Pakistan). There is also a chance that applicants from other countries, particularly countries participating in the past (China, Sri Lanka, Bangladesh, Turkey, Ghana, etc.)

Deadline for applications: *October 31, 1995.

Contact: Dr. Franz Neidl, Gaisberg 116, A-5310 Mondsee, Austria (Tel: 06232-40-79; Fax: 06232-35-78).

* If you miss the deadline, contact Dr. Neidl to inquire about future courses.

4th Symposium on Biogeochemistry of Wetlands

Dates: March 4 - 6, 1996

Location: New Orleans, LA

Topics: Meeting will emphasize various biogeochemical processes occurring in freshwater, estuarine and saline wetlands. Topics include: Role of wetlands in improving water quality; role of wetlands in global change; Nutrient cycling in wetland ecosystems; use of biogeochemical processes to characterize regulatory wetlands; plant-soil interactions in wetlands; toxic heavy-metal chemistry in wetlands, reactions and degradation of toxic organics in wetlands; and modeling of wetland geochemical processes.

Contact: Ms. Karen Gross, Wetland Biogeochemistry Institute, Louisiana State University (Tel: 504-388-8810; Fax: 504-388-6423; cwgro@lsuvm.sncc.lsu.edu)

Oceanology International 96

Dates: March 5 - 8, 1996

Location: Brighton, England

Topics: Ocean science and marine technology.

Contact: Bob Munton, Oceanology International 96, Spearhead Exhibitions Ltd., Ocean House, 50 Kingston Rd., New Malden, Surrey KT3 3LZ, United Kingdom (Tel: 81-949-9222; Fax: 81-949-8193; oi96@spearhead.co.uk)

Short Course, Water Quality/Sediment Quality Evaluation - Sediment Quality Criteria

Dates: April 22 - 24, 1996

Location: Seattle, Washington

Contact: Environmental Education Enterprises, G. Fred Lee (Tel: 916-753-9630; Fax: 916-753-9956; gfredlee@aol.com)

39th Annual Conference on Great Lakes Research

Dates: May 26 - 30, 1996

Location: Mississauga ON, Canada

Topics: Special Sessions will cover a variety of current large lakes issues such as the effectiveness of international management agreements, endocrine disrupters, non-native species, effects of UV radiation, human health, sea lamprey controls, satellite imagery, food web interactions, and wetland restoration

Contact: W. Gary Sprules, Dept. Zoology, Erindale College, University of Toronto, Mississauga, ON L5L 1C6 Canada (Tel. 905-828-3987; Fax 905-828-3792; gsprules@cyclops.erin.utoronto.ca)

NATO Advanced Study Institute, Physiological Ecology of Harmful Algal Blooms

Dates: May 27 - June 6, 1996

Location: Bermuda Biological Station for Research

Topics: To assess our understanding of the fundamental physiological and ecological issues underlying harmful algal blooms (HABs), to identify inadequacies, impediments, and promising areas for future research, and to advance and disseminate new approaches and technologies. The ASI will follow the format specified by NATO, which requires a 10-day meeting involving many different types of activities (e.g., lectures, field and laboratory demonstrations, group discussions). Efforts will be made to summarize major advances in two main areas: (1) The ecology of critical groups of toxic phytoplankton (= "Autoecology"); and (2) The ecophysiological processes and mechanisms that affect toxic bloom formation and the production of phycotoxins (= "Ecophysiological Processes and Mechanisms"). It is hoped that one outcome of this approach will be the elucidation of critical factors that regulate blooms of related species as well as of toxic species in general.

Contact: Donald M. Anderson, Biology Department, MS #32, Woods Hole Oceanographic Institution, Woods Hole, MA 02543-1049, USA (Fax: 508-457-2134; danderson@whoi.edu)

**Joint Conference, American Society of Ichthyologists and Herpetologists, and American Fisheries Society
Larval Fish Conference**

Dates: June 13 - 19, 1996

Location: New Orleans, Louisiana

Contact: ASIH Meeting, Metropolitan College Conference Services (ED 116), Univ. of New Orleans, New Orleans, LA 70148 (Tel: 504-386-6680; Fax: 504-286-7317; <http://www.utexas.edu/depts/asih/index.html>) or Richard F. Shaw, Host, Larval Fish Conference, Coastal Fisheries Inst., Wetland Resources Building, Louisiana State University, Baton Rouge, LA 70803.

ASLO 1996 Annual Meeting

Dates: June 16 - 20, 1996

Location: Milwaukee, Wisconsin

Topics: Full range of aquatic science.

Contact: Arthur Brooks, Center for Great Lakes Studies, University of Wisconsin-Milwaukee, Milwaukee, WI 53201 (Tel: 414-382-1704; Fax: 414-382-1705; abrooks@csd.uwm.edu)

GAP VII CANCELLED

The GAP International Committee regretfully announces that GAP VII, which was to be held at Menai Bridge, Wales in July 1996, has been cancelled due to circumstances beyond the Committee's control. We are reviewing options for replacing this workshop and will announce a new venue shortly. We thank all those who showed an interest and registered with GAP VII and look forward to seeing you at the next GAP workshop.

10th Workshop of the International Association of Phytoplankton Taxonomy and Ecology

Dates: June, 21 - 30, 1996

Location: Granada, Spain

Topics: Phytoplankton ecology across trophic gradients; and The taxonomy of Chrysophytes, Euglenophytes and Volvocales.

Contacts: Miguel Alvarez Cobelas, Centro de Ciencias Medioambientales (CSIC), Serrano 115 dpdo., E-28006 Madrid, Spain (Fax: 34-1-5640800; ccmalim@cc.csic.es) or Pedro Sanchez Castillo, Dept. Biologia Vegetal, Fac. Ciencias, Univ. Granada, Avda. Fuentenueva s/n., E-18001 Granada, Spain (Fax: 34-58-243254; psanchez@ugr.es).

Second World Fisheries Congress

Dates: July 28 - August 2, 1996

Location: Brisbane, Australia

Topics: The congress theme is Developing and Sustaining the World Fisheries Resources: The State of the Science and Management. Sub-themes will focus on international policy, research, and scientific issues. The congress is hosted by the Australian Society for Fish Biology.

Contact: Second World Fisheries Congress, P.O. Box 1280, Milton QLD 4064, Australia (Tel: 617-369-0477; Fax: 617-369-1512).

Third International Penguin Conference

Dates: September 2-6, 1996

Location: Cape Town, South Africa

Topics: The conference is being organized by the African Seabird Group, under the broad theme of "Penguins: science and management". There will be four days of formal talks and poster sessions, all in plenary, broken in the middle by an excursion. Conference proceedings will be published as a special issue of *Marine Ornithology*.

Contact: Organizing Committee, Third International Penguin Conference, African Seabird Group, P.O. Box 34113, Rhodes Gift 7707, South Africa (Tel: 27-21-650-3294 Fax: 27-21-650-3295; jcooper@botzoo.uct.ac.za).

8th International Conference on Physics of Estuaries and Coastal Seas

Dates: September 9 - 11, 1996

Location: Rijkswaterstaat, The Netherlands

Topics: Circulation and mixing processes; Chaotic dispersion; Sediment transport; Non-linear estuarine and coastal hydrodynamics; and morphodynamics of estuaries and coastal seas.

Contact: Maarten Scheffers, National Institute for Coastal and marine Management/RIKZ Kortenaerkade 1, P.O. Box 20907, 2500 EX, The Hague, The Netherlands (Tel: 31-70-3114258/225; Fax: 31-70-3114321; scheffer@rikz.rws.minivenw.nl)

ASLO 1997 Aquatic Sciences Meeting

Dates: February 10-14, 1997

Location: Santa Fe, New Mexico

Topics: This meeting will cover the full range of aquatic sciences. Please send us your ideas for special sessions.

Contact: Jonathan J. Cole, Institute of Ecosystem Studies, Cary Arboretum, P.O. Box AB, Millbrook, NY 12545 (Tel: 914-677-5343; Fax: 914-677-5976; 76067.3033@compuserve.com) or James T. Hollibaugh, Tiburon Center, San Francisco State University, P.O. Box 855, Tiburon, CA 94920 (Tel: 415-435-7141; Fax: 415-435-7120; jth@mercury.sfsu.edu)

3rd International Conference on Reservoir Limnology and Water Quality

Dates: August 31 - September 5, 1997

Location: Ceské Budejovice, Czech Republic

Topics: Aim is to bring together limnologists and water quality engineers dealing specifically with reservoir limnology or topics relevant to understanding, predicting and managing reservoir quality. Topics include: geographic peculiarities of reservoirs; nutrient cycles and eutrophication; food web interrelations; spatial heterogeneity; global climatic changes and reservoirs; sedimentation and sediment-water interactions; Ecotechnological measures of reservoir management; integrated catchment management; fisheries; and mathematical models.

Contact: Jaroslav Vrba, Hydrobiological Institute, Academy of Sciences of the Czech Republic, Na sádkách 7, CZ-370 05 Ceské Budejovice, Czech Republic (Tel: 42-38-45484; Fax: 42-38-45718; hbu@dale.entu.cas.cz) or Wayne A. Hubert (Tel: 307-766-5415; Fax: 307-766-5400; whubert@uwoy.edu)

Vth INTECOL International Wetlands Conference

Dates: September 22 - 28, 1996

Location: Perth, Western Australia

Topics: Theme is "Wetlands for the Future" with emphasis on our current understanding of wetlands, the importance of conservation and management, and the role of technology in maintaining wetlands in the future. Topics will include: Physical, chemical and biological processes; modeling; applied research, technology and management; and policy and planning. This conference follows a series of international wetland meetings held every 4 years.

Contact: Jenny Davis, School of Biological and Environmental Sciences, Murdoch University, Murdoch, Western Australia 6150 (Tel: 61 9 360 2939; Fax: 61 9 310 4997; davis@essun1.murdoch.edu.au)

Radionuclides in the Oceans (RADOC 96-97)

Dates: October 7 - 11, 1996

Location: Cherbourg-Octeville, France

April 7 - 11, 1997

Norwich and Lowestoft, U.K.

Topics: Radionuclides in the oceans. First meeting will focus on inventories, behavior and processes, while the second will focus on impacts on man and the environment, including radiologic and environmental protection and modeling.

Contact: Tel: 44-1502-56224; Fax: 44-1502-513865

NATIONAL RESEARCH COUNCIL INVITES PARTICIPATION IN A MULTIDISCIPLINARY SYMPOSIUM ON UNDERGRADUATE EDUCATION

The National Research Council invites you to participate in a series of regional symposia that will explore issues in undergraduate education that are common to the science, mathematics and engineering communities, and to help plan a series of topical forums that will be held after the Regional Symposia to focus on specific topics related to undergraduate education. Discussions from the regional symposia will help the NRC undergraduate education initiatives to prepare recommendations for both disciplinary communities and to the higher education community at-large. The symposia will also provide valuable input to a new NSF study that will produce a set of recommendations for improving undergraduate education, called Review of Undergraduate Education.

Following the regional symposia, the NRC undergraduate initiatives will then sponsor up to fifteen additional forums that will focus on more specific topics related to undergraduate SME&T education. The NRC hopes to work directly with professional societies and other organizations that are now engaged in improving some aspect of undergraduate education to organize these forums at national meetings, or on individual college and university campuses. ASLO President Nancy Marcus hopes that one such forum will be held at the ASLO '97 meeting in Santa Fe. Please let her know if you are interested in becoming involved.

Meeting details are provided in the first entry of this bulletin's Calendar section.

Please complete the two surveys:

Slide/Video Collection Survey

page 7 (see also p. 6)

Academic Careers Survey

page 17 (see also p. 16)

AD, Turner Designs

AD, Biospherical instruments