

# ASLO BULLETIN

American Society of Limnology and Oceanography

Issue 8(2)/8(3)

SUMMER/FALL, 1999

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*Nominate your colleagues for ASLO Awards: See p. 17*

## MESSAGE FROM THE PRESIDENT

### ASLO IN TRANSITION

*Thomas C. Malone, Horn Point Laboratory, University of Maryland Center for Environmental Science, Cambridge, MD 21613 (Tel: 410-221-8406; Fax: 410-221-8473; malone@hpl.umces.edu)*



ASLO is in the midst of a major transition, and I would like to take this opportunity to reflect on these changes and their implications. As many of you know, the environmental sciences are in the process of "coming out," largely in response to two important realities that have become painfully apparent during the 90's. First, we have come to realize that the public at large, and many of our elected officials, have no concept of what the scientific process is all about. I discussed this problem in the last issue of the Bulletin

(1999, vol. 8, No. 1). Second, there is a huge gap between our scientific understanding of aquatic ecosystems and the use of this knowledge in the development and implementation of environmental policies.

Over the last three years, the Board has taken steps to address these problems while at the same time improving communications among the membership of ASLO. A new business office was selected in 1996 (The Schneider Group). In 1998, ASLO took the lead in the formation of the Council of Aquatic Sciences; a Public Policy Committee was formed; a new award, the Ruth Patrick Award, was instituted; and a new Editor-in-Chief was appointed (Everett Fee). During 1998-1999, the process of reviewing, accepting, editing, and publishing technical papers in L&O was streamlined with the closing of the managing editor's office at the University of Washington and the consolidation of this activity with the office of the Editor-in-Chief in Canmore, Canada; the num-

The ASLO Bulletin is generally published 3 times annually (March, August and November) by the American Society of Limnology and Oceanography to provide members with up-to-date information on Society activities and to serve as a forum for open discussion. At its July 1999 meeting the Board decided to publish only 2 issues in 1999.

<b>EDITOR</b>	Until Dec. 31, 1999: C. Susan Weiler. (execdir@aslo.org)
<b>TARGET DATES</b>	for 1999 submissions: February 10 and August 23; for 2000 schedule, contact execdir@aslo.org after 1 Jan. 2000.
<b>ADVERTISING:</b>	Jobs, opportunities: \$14/line (80 characters & spaces per line); send to exeddir@aslo.org after 1 Jan. 2000. For-Profit advertisers: Electronic copy preferred; send to execdir@aslo.org after 1 Jan. 2000.
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ber of Associate Editors was increased from 14 to 25 with the addition of some of the world's foremost experts in the fields of bio-optics, coral ecology, stable isotope biogeochemistry, wetland ecology, stream ecology, and the effects of contaminants and UV radiation on aquatic systems; and L&O became available electronically over the Internet. Beginning in 2000, library subscriptions to L&O will include a free CD-ROM containing volumes 1-43 (1956-1998), and we will have a new Executive Director on board starting January 1, 2000. I believe it is safe to say that our Society has experienced more changes during this period than it has since the merger of the Limnological Society of America and the Oceanographic Society of the Pacific in 1948 and the creation of Limnology and Oceanography in 1956.

Here is where I think we are. (1) Everett Fee, Lucille Doucette, and Paul Kemp are the best "thing" that has happened to the Society in a long time and the timing could not be better; (2) we have a superb business office; (3) we have a dedicated group of officers who are working hard to do the right thing by the Society and who are unified in their vision of what the Society's priorities are (L&O, ASLO meetings, outreach in the public policy arena); and (4) we are blessed with a great Board that is working hard on behalf of the membership. In short, all the elements but one are in place to not only address our internal problems, but also to take on an important new initiative — to become more involved in the formulation of sound environmental policies through more effective communication of scientific knowledge to our elected officials and the public.

In regard to public policy and public relations, I indicated in the last Bulletin that the Board was in the process of "exploring the possibility of moving the office of the Executive Director to Washington, D.C. Beginning about 5 years ago, our Society's leadership began to seriously consider the kinds of outreach activities that ASLO should engage in to more effectively communicate knowledge of aquatic systems for a more informed public and the formulation of sound

environmental policies as related to aquatic systems. The Committee on the Future of ASLO recommended in 1996 that ASLO "link through research and education knowledge in the aquatic sciences to the identification and solution of problems" that are "relevant to humans and their environment" and that the Society should "hire a person to represent the society in Washington, D.C." who is "highly qualified and politically experienced scientist." We are currently in the process of doing so. The new Executive Director's first priority will be to establish an office in D.C., probably in partnership with the Ecological Society of America.

The changes described above (most notably the closing of the Seattle office, getting L&O back on schedule, electronic publication of L&O, the production of the CD-ROM, and improvements in the ASLO web page) have caused both a transient cash flow problem and increased the cost of running the Society which have necessitated a fundamental change in the management of our Society's resources. Prior to the 1990's, ASLO was largely running on good faith and a hand shake. The large "nest egg" that was developed during the previous 4 decades was sitting in an account that was generating virtually no net income (after inflation). With the guidance of the Finance Committee and the Business Office, the Board and our Treasurer have worked to develop an investment strategy and a proactive budgeting process that is currently being implemented. The immediate priority is to balance the budget and to do so in such a way that the Society is able to move forward on the initiatives described above. In my opinion, it is essential that we address these challenges in a bold and well considered way if ASLO is to survive and grow over the next 2-3 decades. We are going to see many changes in the environmental sciences (e.g., in the conduct and funding of science, the expectations of society, legal implications of environmental research, relationships among scientific societies), and it is important that ASLO play a leadership role as we move into a period where the environmental issues will become increasingly important and controversial.

## **HONOR YOUR COLLEAGUES**

See pp. 16 - 17 for  
**ASLO Award Information  
and  
Nomination Guidelines**

## ASLO ELECTIONS

### ASLO 1999 ELECTION RESULTS

Tellers Patrick Neale and report that a total of 471 ballots were received by the June 1 deadline and tallied, with the following results:

- **Russell A. Moll** (University of Michigan, treasurer@aslo.org) was elected to a second term as Treasurer;
- **John M. Melack** (University of California at Santa Barbara, melack@lifesci.ucsb.edu) and **James W. Moffett** (Woods Hole Oceanographic Institution, jmoffett@whoi.edu) will serve as Members-at-Large.
- **Margaret M. Squires** (Simon Fraser University, msquires@sfu.ca) will serve as the first elected Student Representative to the ASLO Board. Cristina D. Takacs and Karla Heidelberg were appointed by the Board as Student Representatives in 1997. Karla has now rotated off the Board, while Cristina will remain on for one more year, until a second Student Representative is elected.
- **All Bylaws changes passed** by the necessary 2/3 majority of ballots. The revised Bylaws are available on the ASLO web page at <http://aslo.org/bylaws.html>. The Bylaws will also be published in the 1999/2000 Handbook/Directory which will be mailed to members in early 2000.

### NOMINATE YOUR COLLEAGUES TO THE ASLO BOARD OF DIRECTORS

ASLO is governed by a Board of Directors which includes the President-Elect, President, Past President, Secretary and Treasurer, seven Members-at-Large, one for every 500 members of the Society, and two student representatives. With the exception of those in the presidential succession, who serve 2 years in each position, terms are for 3 years, beginning July 1.

On behalf of the Society I thank retiring Board members Karen Wishner and Jim Elser for their outstanding service over the past 3 years. Board members are involved in every policy decision of the Society, and so it is impossible to summarize their many accomplishments in the limited space available. I would however like to mention the major accomplishments of each. Jim was extremely active with the ASLO Award committee during his three years, and in addition served as the Board representative to a special committee created by President Tom Malone to consider whether and how ASLO might become more active in the public policy arena. This work led to the formation of the current Public Policy Committee, which is chaired by David Karl and on which Jim also serves. Karen Wisher has been most active with ASLO meetings, serving on the Meetings Committee and also serving as co-organizer (with John Downing) of the highly successful ASLO 1999 Aquatic Sciences Meeting. It is through her and Downing's efforts that the new "thematic sessions" were initiated. Due their success, the Board expects these to become a standard part of ASLO's future aquatic science meetings.

As Tom Malone mentioned in his message (see pp 1-2), the Society is busier now than at any period since its founding. The 2000 Nominations Committee will need nominations from you to develop a slate of candidates for the following positions:

- **President-Elect.** The person elected will serve a 6-year position on the Board; two years as President-Elect, two as President, and two as Past President. By tradition, this year the committee will identify two individuals with an oceanographic focus to serve as candidates.
- **Secretary:** the person elected will serve a 3-year term. Incumbent Secretary Asit Mazumder has just moved from U. Montreal to U. Victoria and due to increased responsibilities has decided not to run for a second term as Secretary.
- **Member-at-Large:** With Louis Legendre, Saran Twombly and Mike Vanni rotating off the Board, three of the 7 Member-at-Large positions will be open in 2000.
- **Student Representative:** This will be the second time a Student Representative will be elected to the Board.

ASLO is a member-driven Society--Please nominate your colleagues for the positions of President-elect, Secretary, and Member-at-Large. Self nominations are always welcome. Send nominations to [weiler@whitman.edu](mailto:weiler@whitman.edu).

### Deadline for Nominations:

November 1, 1999

### STUDENT REPRESENTATIVE TO THE BOARD

Rather than being nominated by ASLO members, the candidates for Student Representatives are selected by the Nominations Committee from among those submitting a Statement of Interest for the position. Students at any educational stage are eligible. An elected representative may complete his/her term if s/he graduates before the term is completed. If you are interested in serving as a candidate for Student Representative, contact Student Representative Maggie Squires (msquires@sfu.ca) for information about responsibilities and level of effort.

If you wish to be considered as a candidate, please send a Statement of Interest with the following to [weiler@whitman.edu](mailto:weiler@whitman.edu):

1. Name, address, phone, fax, e-mail, institutional affiliation, month/year graduate study began, month/year degree expected, and number of ASLO meetings attended.
2. Statement of interest in serving on the ASLO Board (1 page maximum); include any experience that might be relevant.
3. Brief CV (2 page maximum).
4. Two letters of recommendation, one of which must be from your advisor (letters should be sent directly to [weiler@whitman.edu](mailto:weiler@whitman.edu)).

### Deadline for statements of interest:

November 1, 1999

**PROCEEDINGS OF THE AMERICAN SOCIETY OF LIMNOLOGY AND OCEANOGRAPHY, Inc.**  
**Annual Meeting, February 1, 1999, Hilton Hotel, Santa Fe, New Mexico**

The meeting was called to order at 5:30 PM by President Tom Malone with over 100 members in attendance. Following a note of thanks to the Board of Directors for their support and contributions, he presented an overview of the activities of ASLO during 1998 and the priorities for 1999-2000. He emphasized the steps that ASLO took to revamp the publication of *Limnology and Oceanography* in a timely manner. To achieve this critical goal, the Society appointed the new Editor (Everett Fee) and Journals Manager (Lucille Doucette), relocated the L&O publications office to Canmore, Alberta, Canada, and achieved a new and efficient electronic communications with Paul Kemp as the ASLO Web Editor. He then emphasized the priorities for the immediate future. Some of the notable priorities for the Society will be publish L&O on schedule, appoint a new Executive Director for ASLO, work on the proposal of relocating ASLO Office to Washington DC, and to strengthen ASLO's capability in electronic publication. Following the report from the President, Dr. Laura Rodriguez, the Congressional Fellow, presented a report on her experience and expectation as the fellow in Washington DC. Karla Heidelberg and Christina Calderon presented their reports on the student activities in 1998 and future plans to enhance student participation in ASLO activities.

Asit Mazumder presented the Secretary's Report. Membership for 1998 was 3,718, up from 3,685 in 1997. Of these active members, 733 are students and 67 are Emeritus members. The library and institutional membership was 1,580 up from 1,325 in 1997. Both overall membership and institutional membership categories showed increases from the past year. Among the total ASLO members in 1998, 67% are from the USA which is 10% lower than it was in 1989. The remaining 33% of 1998 ASLO members are from outside the USA representing 59 different countries. The following members were reported as deceased during the past year: Louis G. Williams, Northport, Alabama; C.W. Threinen, Middleton, Wisconsin; Clinton V. MacCoy, Norwell, MA; Helmut Kukert, Bremerhaven, Germany; Kenneth Emery, North Falmouth, MA; J. Kneeland McNulty, Highlands, NJ.

Asit Mazumder, as the Chair of Meetings Committee, presented a report on the status of ASLO meetings. He started by thanking John A. Downing and Karen F. Wishner, the co-chairs of ASLO-1999-Santa Fe Aquatic Sciences Meeting, for doing an excellent job of organizing this large and most successful ASLO meeting. The 2000 Ocean Sciences Meeting will be held January 23-28 in San Antonio, Texas. The first ASLO summer meeting outside North America will be held in Copenhagen, Denmark June 5-9, 2000, with Co-Chairs Morten Sondgaard and Bo Reimann. A joint ASLO-Estuarine Research Federation meeting is being planned for 2002. Mazumder also mentioned the 2001 and 2003 Aquatic Sciences Meetings will be held in Albuquerque, New Mexico. ASLO members were requested to propose locations for the ASLO 2002 summer meeting and

2001 Aquatic Sciences meeting, to be held in Albuquerque, New Mexico. He also discussed the issue of the number and frequency of ASLO meetings.

Russell A. Moll presented the Treasurer's Report. The major point of his report was the deficit ASLO incurred during 1997-98 fiscal year. He emphasized that several major administrative decisions ASLO had to take relating the closure of ASLO publications office in Seattle and its relocation in Canmore, Alberta. ASLO had to take additional steps to ensure timely publication of L&O which have been expensive. However, he expressed that our members should be pleased to see the improvement on L&O publications. He also mentioned that some of the deficits in ASLO budget are associated with the decline in library subscription and emphasized that with the improved timely publication of L&O, this deficit should recover in the near future. In his report, he thanked the ASLO Business Office team, led by Business Manager Helen Schneider-Lemay, for its smooth transition and substantial improvements in the operation of the Society. He assured that attention will be paid to ensuring a solid financial future for the Society.

Executive Director C. Susan Weiler presented a brief review of the changes within ASLO over the past 9 years. She thanked members for contributing to the Society and noted a few highlights of the membership profile. She emphasized the increasing trend of female memberships in ASLO, especially among student memberships. She cited the personal and professional reasons behind her decision last November to resign at the end of this year, and thanked the Board and members for making her work over the past 9 years so enjoyable.

Everett Fee, the Editor of L&O, presented his report by emphasizing the excellent progress achieved by the publications office. He mentioned that by June 1999, L&O will be published on schedule. The Web Editor, Paul Kemp, presented the progress he made in terms of the new and more organized ASLO Web Page and future plans for electronic publication of L&O and ASLO Bulletin. Russ Moll presented a proposed increase in dues for ASLO membership and L&O subscription.

Tom Malone opened the floor to discussion. Attending members discussed the issue of the timing and the frequency of ASLO meetings, and it was observed that members are satisfied with the current system of winter Aquatic Sciences meeting during the odd-numbered years, winter Ocean sciences meetings in collaboration with AGU during even-numbered years, and the summer ASLO meetings during even-numbered years. Members were asked to vote on the issue of possible increases in dues and subscription starting year 2000, and it was observed that the majority of the members were in favor of the proposed increases. The President adjourned the meeting at 6:00 PM.

*Asit Mazumder, Secretary*

**American Society of Limnology & Oceanography, Inc.  
1998 Financial Statement**

**REVENUE**

<b>Society</b>	
Dues	\$239,192.26
Sustaining Members	1,500.00
Interest	7,970.98
Investment Income (Nations Bank)	39,060.40
Meetings – St. Louis	(54,045.30)
AGU Biannual Meeting	21,927.00
General Endowment	747.50
Student Travel	1,947.50
Mailing List Rentals	7,020.00
Bulletin Advertising	5,666.00
Miscellaneous	<u>3,413.88</u>
	\$274,400.22

**Journal**

Subscriptions	\$273,949.15
Reprints	37,347.55
<b>Miscellaneous</b>	
Author Alterations	20,380.96
Color Plates	3,650.00
Page Charges	15,700.00
Copyright Release	891.95
Non-Member Publication	1,000.00
Back Issues	<u>4,353.00</u>
	\$357,272.61

Grant – Volume 42-5 #2 \$ 35,000.00

**TOTAL REVENUE \$666,672.83**

**EXPENSES**

**Society**

Audit & Tax Preparation	\$ 2,390.00
Charge Card Bank Fees	13,035.13
Depreciation	4,049.38
Dues	2,450.00
General Travel & Meetings	40,815.71
Gifts and Awards	4,022.71
Insurance	808.00
Inventory Storage	1,281.67
Investment Fees	3,583.66
Mailing List Rentals	2,775.83
Misc. & General Administration	6,581.32
Miscellaneous Postage	13,106.80
Miscellaneous Printing	11,320.75
Newsletter – Printing & Postage	23,018.86
Professional Fees	7,898.93
Student Travel Awards	7,600.00
Web Services	<u>11,891.83</u>
	\$156,630.58

**Expenses (cont'd)**

**Executive Director's Office**

Salary	\$ 44,387.66
Benefits	13,584.30
Secretary Salary	8,244.10
Secretary Benefits	1,443.78
Indirect Expenses	8,262.38
Operating Expenditures	6,036.78
Travel & Miscellaneous	<u>7,328.00</u>
	\$ 89,287.00

**Business Office**

Contracted Services	\$ 52,195.00
General Office	724.02
New Members	11,109.20
Telephone	4,970.48
Travel & Meetings	<u>5,395.84</u>
	\$ 74,394.54

**Board Member Travel & Misc.**

President	\$ 7,879.61
Secretary	6,114.34
Treasurer	<u>2,356.71</u>
	\$ 16,350.66

**Journal**

Publishing (9)	\$249,668.49
Publishing Special Issue	36,962.16
Reprints/Postage	21,003.04
Back Issues	<u>5,958.15</u>
	\$313,591.84

**Editorial Office**

Delaware Travel & Meetings	\$ 653.61
Seattle Rent	3,780.00
Assoc. Editor	11,156.09
Managing Editor	45,768.00
Office Assistance	17,956.65
Ed. Assist. Salary	28,212.73
Benefits	19,999.12
Operating Expenditures	10,304.84
Travel & Miscellaneous	693.05
Canmore Rent	2,468.38
Editor-In-Chief	12,499.65
Assist. to the Editor	19,999.65
Office Supplies	2,919.96
Phone Lines	758.59
Offsite Back-up	188.16
Copyediting	520.00
Postage	<u>594.71</u>
	\$178,473.19

Directory (2) \$ 18,850.84

Congressional Fellow \$ 10,315.00

**TOTAL EXPENSES \$857,893.65**

*Excess Revenue over Expenses/  
(Expenses over Revenue) (\$191,220.82)*

ASLO Financial Statement Notes

Several notes of explanation accompany this statement. The content of these notes repeat much of what was presented to the ASLO membership at the annual Business Meeting in Santa Fe last February.

This past year was a difficult year financially for ASLO with the society running a substantial deficit. Several factors conspired to make this a difficult year. Some of those included: Rapidly escalating expenditures, lower than anticipated overall revenues including from the Ocean Sciences meeting, an unexpected loss from the St. Louis meeting, and costs associated with the closure of the Seattle office. The latter point had an especially large impact on the 1998 budget. In essence ASLO had a six-month period during the second half of 1998 where the Seattle editorial office was winding down and the Canmore office getting started. Thus two editorial offices were in operation at the same time for a half-year. Also, the process of bringing Limnology and Oceanography back on schedule required printing and shipping a ninth issue in 1998. These circumstances were buffered by drawing \$100,000 from the ASLO long-term investment account to allow the society to continue to function and meet its desired goals and mission for the year.

The financial ramifications from 1998 will not be easy to overcome and have a large impact in 1999 and 2000. The heavy expenses from 1998 have spilled over into 1999 and it will take another year for the society to return to a balance between income and expenditures. The recent financial woes for ASLO have resulted in a reshaping of how budgets will be developed in the future. In particular, ASLO will begin a program of spending cuts and dues/subscription increases to produce a balanced budget. Toward that end, the ASLO Board met in July to develop the 2000 budget that should be balanced by next year. In the interim, sound past financial practices by ASLO has allowed the society to create substantial financial reserves to carry it through 1998 and 1999.

**NEW**

## Temperature/Pressure Recorders that shatter the performance vs. price barrier



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### Standard Features:

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- Pressure sensor (ranges up to 10,500 meters)
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- Fast response sheathed thermistor (shown at left)
- Mooring clamp (shown at left)
- External connector (not shown)

The SBE 39 records over 50,000 samples of Temperature, Pressure, and Time on a single 9-volt alkaline battery, and more than 150,000 samples on a non-hazardous lithium battery. It's easy to use and comes with its own software for plotting and exporting data. You can even save plots as .BMP or .JPEG files, to simplify data presentations!

The inherent accuracy, resolution and stability of the SBE 39 design, combined with a rigorous 11-point temperature calibration, yields a true research quality tool. Primary temperature standards (water triple point and gallium melting point cells) and state-of-the-art equipment maintained in Sea-Bird's NIST traceable calibration facility are brought to bear on every SBE 39 calibration.

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Fax: 425-643-9954 Tel: 425-643-9866

## ASLO NEWS

### ASLO BULLETIN CHANGES

C. Susan Weiler, ASLO Bulletin Editor ([weiler@whitman.edu](mailto:weiler@whitman.edu))

This issue marks the end of my term as *ASLO Bulletin* Editor. The ASLO Board decided to slightly defer publication of this issue so that information and results of the recent Board meeting could be included and so that the Call for Papers for the ASLO 2000 meeting in Copenhagen could mail with it. Because of the delay, much of the material which would normally have been in the third issue will appear in this one. As a consequence, the Board decided to make this issue the last to be published in 1998 and hence my last issue as Editor.

Starting in 2000, the *ASLO Bulletin* will be under the editorship of our new Executive Director (see p. 1). I hope that the new Editor enjoys his or her tenure as much as I have mine! I expect you will see many changes in the Bulletin, all for the better -- Once in Washington, D.C. the ASLO office will be at the center of most education, public policy, and other scientific initiatives. And, since many other professional societies also have headquarters in the D.C. area, there will be expanded opportunities for inter-society collaborations. The ASLO ED Office will hence be much better equipped to keep up with the latest advances, develop new initiatives, and otherwise serve the society's membership. The changes should result in more news to reports in the *ASLO Bulletin*. But the editor can't do it alone--contributions from the membership will continue to be a vital part of the Bulletin. So please send your contributions to the new Executive Director (the address and contact information will be posted on the ASLO web page and e-mailed to the membership once the new Executive Director has been hired and the new office established). This will be an exciting time for the society, and I hope you will all play an active role in this transition.

### ASLO MEETINGS: ORGANIZERS NEEDED

Asit Mazumder, ASLO Secretary and Meetings Committee Chair, Biology Department, University of Victoria, Victoria, BC, Canada (Tel: 250-472-4789; [secretary@aslo.org](mailto:secretary@aslo.org))

By this message, I would like to invite you to participate in the organization of future ASLO meetings. If you are interested in hosting and/or co-chairing the ASLO summer meeting in 2002, I would like to receive formal proposals describing the theme, size of the meeting, location, meetings management team and a preliminary budget. Please send your proposals to me by email or by regular mail before the next ASLO Board meeting which will occur during the AGU/ASLO-2000 Ocean Sciences meeting (Jan 23-28) in San Antonio, Texas. As we will finalize the ASLO-2002 meeting at this Board meeting, I must have your proposals by the first week of December, 1999.

Organizers and committee members are also needed for the ASLO-2001 Aquatic Sciences Meeting to be held in Albuquerque, New Mexico. Please also let me know by the first week of December if you are interested in working on that meeting.

### UPCOMING CHANGES IN THE ASLO WEBSITE

Paul F. Kemp, ASLO Web Editor MSRC, SUNY-Stony Brook, Stony Brook, NY 11794 ([webeditor@aslo.org](mailto:webeditor@aslo.org))

The *ASLO Bulletin* and *Limnology and Oceanography* both appeared in electronic format for the first time in 1999. Tables of Contents for new issues of L&O now appear one or two months before the printed journal, and the complete electronic version of the journal is usually posted before the printed version is mailed. "L&O Online" has rapidly become one of the most-visited parts of the website, garnering nearly 100 article downloads per day. The purpose of placing L&O online in electronic format was to develop an easy-to-use presentation format, and to let subscribers become acquainted with reading L&O online. Considering the large number of accesses and very favorable comments from users, we can count this trial as a resounding success.

Beginning on January 1, 2000, access to the electronic version of *Limnology and Oceanography* will become a subscriber privilege, while the *ASLO Bulletin* will remain freely available to members and to the general public via the web. As mentioned in the above article, the next issue of the *ASLO Bulletin* (issue 8(3)) will appear only in electronic format. All individual and institutional subscribers to L&O will continue to be able read L&O online. Non-subscribers will be able to view the Tables of Contents of each issue, as well as the abstracts of each individual article. However, the full-text articles will be in a restricted area of the website, accessible only to current subscribers.

Subscribers will be able to view not only the latest issue and year, but all years for which L&O is available online. By the end of 2000, this will include the complete L&O collection dating back to Volume 1, Issue 1. During the next several months, we will be implementing an advanced search-and-retrieve capability, so that the wealth of information contained in the complete L&O archive will be literally at your fingertips.

We will shortly post an announcement on the web page giving instructions on how to set up your individual- or institutional-subscriber access to L&O online. Subscribers will be provided with easy-to-follow directions for creating their online access account using a simple interactive web form. Although access restrictions will not be activated until January 1, feel free to set up your access in advance to enjoy uninterrupted use of L&O online next year. Remember, only L&O subscribers will be able to use L&O online, so renew your subscriptions!

### MESSAGE FROM THE ASLO BUSINESS MANAGER

Helen Schneider Lemay, ASLO Business Manager, ASLO Business Office, 5400 Bosque Blvd. Suite 680, Waco, TX 76710-4446 (Tel: 800-929-ASLO or 254-399-9635; [business@aslo.org](mailto:business@aslo.org))

Summer continues to be a busy time for the business office. We are still receiving dues renewals for 1999 and address changes daily, not to mention the other activities that must take place day-to-day to keep a society the size of ASLO up and running. (As of this date, the society has well

over 3,600 active individuals and over 1,500 libraries and institutions included in its membership.)

Believe it or not, it's almost dues renewal time again. Do not be shocked when your first dues renewal reminder for 2000 arrives in your mailbox around the middle of September. It is our goal to send fewer notices next year and to have all members renewed by the end of 1999! We hope you will help in this endeavor by sending in your renewal early and responding to the first notice. By responding as soon as possible, you are ensuring that your subscription to the L&O and your receipt of other ASLO member mailings continue without interruption.

It is worthy of repeating so that you will know the number of ways you can contact the business office. We are readily accessible by e-mail: [business@aslo.org](mailto:business@aslo.org), or you can call us at 800-929-ASLO (within the United States) or 254-399-9635. You also can fax a message to 254-776-3767. The business office is your contact for the following matters and questions:

- Membership-related questions
- Address, phone, fax and e-mail changes
- On-line membership application questions
- Copyright permission requests
- ASLO member mailing list rental
- L&O missing issue claims
- L&O back issue requests
- L&O author reprint billing
- Upcoming meeting information

Obviously, there is a lot of recruiting going on out there, and we commend you on your efforts that are helping to strengthen the society. ASLO has gained almost 400 new members so far in 1999. (Over 200 of them are student members!) Don't forget about your university library. If your library is not currently subscribing to the L&O, they may need recruiting, too!

When your friends and colleagues ask about ASLO, be certain to remind them that the society offers an extensive web site at [www.aslo.org](http://www.aslo.org). The web site is not only an excellent resource for those who are already members, but also it provides the most expedient method for becoming an ASLO member. The on-line application process is quick and easy for new members to complete no matter their geographical location. We have received 100 new members via the web so far this year, so we definitely can say that is catching on.

The following organizations rented the ASLO Member Mailing List in 1998: Academic Press; American Geophysical Union; CRC Press/SLP Direct; EarthInfo; Elsevier Science; JC Lists Company; Kluwer Academic Publishing; National Academy of Science; Marine Biological Laboratory; Oxford University Press; PCS Mailing List Co. &

Information Technologies (for Nature Publishing) and Taylor & Francis.

As the society continues to grow, we look forward to serving more of you and assisting you with your individual needs.

#### **SPECIAL THANKS TO SOCIETY CONTRIBUTORS**

*Helen Schneider Lemay, ASLO Business Manager (business@aslo.org)*

In 1996, the Committee on the Future of ASLO made several recommendations that reflected a growing demand for ASLO to become: 1) more international in scope and 2) to reach beyond the boundaries of the scientific community to effect more timely and efficient dissemination and application of scientific knowledge on aquatic sciences for a more informed public and the formulation and implementation of sound environmental policies.

To help achieve these recommendations, an appeal was made to ASLO members in the "silent generation" earlier this year in a letter signed by Richard Eppley. (The "silent generation" are those born between 1925 and 1945.)

In response, two members of ASLO have made very generous donations to the ASLO Endowment Fund. They are: Susan Kilham, Ph.D., School of Environmental Science, Engineering and Policy, Drexel University and Lawrence F. Small, Ph.D. College of Oceanic and Atmospheric Science, Oregon State University.

We are also pleased to announce that Turner Designs has renewed its sustaining membership in ASLO.

Please consider contributing to the endowment fund or becoming a sustaining member by contacting the ASLO business office.

#### **TENTH ANNUAL ASLO MINORITIES PROGRAM**

*Benjamin Cuker, Marine Science Department, Hampton University, Hampton, VA 23668 (Tel: 757 727-5884; Fax 757 727-5740; cuker@hamptonu.edu)*

Part of the Aquatic Sciences Meetings held in Santa Fe in January of 1999 was the tenth ASLO Minorities Program. Since its first convening at the Williamsburg meetings in 1990, the program has grown in several ways. That first year some 45 students and 6 mentors participated in a pre-conference workshop that featured a variety of talks by ASLO members. After the workshop the students were free to attend the regular sessions, posters and the social activities. All but one of the students that first cohort were undergraduates.

The tenth program had 60 students (50 undergraduates and 10 graduate students) and 12 mentors participating from over 30 different institutions. The opening dinner featured greetings from the ASLO board of directors given by Dr. Sue Weiler, the outgoing Executive Director of ASLO (and a tireless supporter of the program), special comments on the 10th anniversary of the program given by Dr. Mike Purdy of the National Science Foundation, and the keynote address delivered by Dr. Allisa Arp of the Romberg Tiburon Center for Environmental Studies, San Francisco State University. The pre-conference workshop continued with a geological field trip to search for traces of water in the New Mexico mountains, and a student panel on the secrets to success in

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See pp. 11, 28 for information about the  
**DIALOG PROGRAM**

graduate school. At the end of the workshop the students met their “meeting mentors,” ASLO volunteers who help the students navigate the meetings. Program participants presented twenty-four talks at the Student Symposium. Another 10 presentations were given in the regular sessions. The students also participated in all of the ASLO social activities, including the wonderful “swing dance” (this did require a short workshop given by some old guys who remembered how to jitterbug). This year students who were recent participants also joined us in some of our activities in a “Research Experience for Undergraduates (REU)” program. Drs. Russel Cuhel and Carmen Aquiler did a great job in developing and organizing this special REU program.

Thanks to the ASLO members who served as meeting mentors for the students. These were: Drs. Jim Ammerman, Brian Bingham, Gregory Cutter, Carol Daniels, Melinda Davis, Doretha Foushee, Mat Gilligan, Frank Hall, Jeffery Jack, Ashanti Johnson-Pyrtle, DeLois Powell, Hector Quintero, Carlos Robles, Miguel Sastre, Subramania, Sriharan, Percy Washington, Robert Wetzal, Jim Yoder, and Ms. Cynthia Sellinger. And a special thanks to Dr. Joan Mitchell for her long support of the program!

A proposal has been submitted to the NSF for continuing the program for an additional five years. If all goes well, I hope to convene the next program in Copenhagen, June of 2000.

#### **A CONGRESSIONAL FELLOW’S PERSPECTIVE..... (FROM ASLO’S FIRST CONGRESSIONAL FELLOW)**

*Laura Lyman Rodriguez, AIBS/ASLO Congressional Science Fellow 1998-1999, Yukon Lane Rockville, MD 20855 (e-mail after 1 September 1999: lrodriguez@opa.faseb.org)*

This past year during my Congressional Fellowship, I have been drafting letters, talking points and hearing charters on issues ranging from math and science education initiatives to genetically modified foods to fusion energy programs to funding for environmental research labs. This broad perspective contrasts my laboratory experience when I focused most of my attention on designing experiments to assay specific questions regarding the role of a single protein involved in *Drosophila* dosage compensation. It is a different environment, and the rules are not always the same, but the long-term goal in both instances is to move science forward, be it directly or indirectly. In the laboratory I worked on the “frontline” of science to answer specific questions. In the House of Representatives I work in the backfield to facilitate consideration of overarching issues relevant to research funding, regulations, and policy directions. These disparate roles may seem to have little to do with one another on a daily basis, but they have always been closely tied, and in today’s tight-budget climate they are more fundamental to one another than ever.

I spent my fellowship working in the office of Vernon J. Ehlers (R-MI). Mr. Ehlers is unusual in Congress in that he has a Ph.D. in physics. Because Mr. Ehlers is a former bench scientist and academic, he is not the stereotypical Congressman, that is he is already sensitive to the trends and needs of the science and technology community. For this reason, Mr.

Ehlers has made himself a leader in scientific issues facing Congress and on national science policy in general.

My primary responsibilities during my fellowship have been to serve as staff for Mr. Ehlers on the House Science Committee and to assist him with his current efforts to improve mathematics and science education at the K-12 level. The jurisdiction of the Science Committee includes all federal civilian basic research endeavors; it excludes those efforts supported by military funding or that have a biomedical or agricultural emphasis. The primary agencies whose research programs are overseen by the Science Committee are the National Science Foundation, the National Aeronautics & Space Agency, the Department of Energy, the National Oceanographic & Atmospheric Agency and the National Institute of Standards and Technology. One of the first things I learned when session began for the 106<sup>th</sup> Congress was that the first portion of every new congress (each two year session is a new entity) is spent reviewing budget requests and re-authorizing funding levels for those agencies whose legislative authority has expired, or will soon expire. Unlike biological mechanisms, the legislative process does not always run its predicted course, and “trouble-shooting” is a less rational process than in the laboratory.

For instance, my first experience preparing an amendment to be included in a bill, HR 1552, the Marine Research and Related Environmental Research and Development Programs Act of 1999, appeared straightforward. The amendment involved a bipartisan initiative to increase funding for the Great Lakes Environmental Research Laboratory (GLERL) by one million dollars. The Science Committee passed the amendment by voice vote (meaning no one contested the issue); however, due to overlapping jurisdiction, the bill was sequentially referred to the Fisheries Conservation, Wildlife and Oceans Subcommittee of the Resources Committee and they did not include the GLERL modification in their version of the bill. At this point, it is doubtful if the legislation will continue to move through the process before FY2000 funding allocations are made as more controversial differences between the Science and Resources Committee versions of the bill have arisen. All Committees with jurisdiction over a piece of legislation must agree on identical bill language before it can be brought to the floor for debate and voted on. Thus, the variables in the legislative pathway are not restricted to a single issue, let alone to a single person with a consistent set of priorities.

Despite the convoluted path, however, the system does effectively filter the thousands of individual policy proposals introduced by Representatives and Senators. Through my experiences, I have learned that the key to guiding science policy, or any other policy, through this system is education: of elected officials and their staff, of the tax-paying public, and of the children who will be our future scientists, politicians, and citizens. One education effort I have assisted with, is Mr. Ehlers’ work to improve K-12 math and science education. This activity is in follow up to the report on national science policy that he authored last year, on behalf of the House Science Committee, entitled *Unlocking Our*

*Future: Towards a New National Science Policy.* I encourage all scientists to review the report online at [www.house.gov/science/science\\_policy\\_report.htm](http://www.house.gov/science/science_policy_report.htm), or at least the summary of recommendations. Because the document was written for Congress, not for scientists, several of its points are already widely known in the scientific community. It is the adoption of these recommendations by the full House of Representatives (H.Res. 578) that makes them significant.

One of the report's tenets is the need for increased integration of science and policy through the regulatory and judicial systems, and particularly through improved communications between bench scientists and society. Although I believe that we need more scientists working at the heart of politics and government to provide daily access to policymakers, I believe even more strongly that the "true" scientists working in the field have an essential role to play in the maze of policy development. Determining where that role lies is an individual choice, and there are options at all levels of the policy mechanism. By interacting with local, state or federal government representatives, agency officials, the media or even members of a local rotary club, individual scientists can play a role in policymaking without sacrificing their primary responsibility to the laboratory. Through open dialogue a scientist can increase understanding of how his or her research contributes to the public good, as well as encourage an appreciation for how public policy affects individual research projects and the research process at large. Conflicts in priorities that lead to legislation such as the

application of the Freedom of Information Act to all federally funded research can be handled, or ideally avoided, through more efficient, frequent, and effective communication among scientists, policymakers, and regulatory agencies. And, sharing the excitement of scientific research with students of any age will not only bring new people into the field but will also create a populace with greater awareness of their fellow citizens in the laboratory. There are many ways to become involved in the partnership of science and policy. The goal is not to make the maximum impact, but to participate in the cumulative effort, just as scientists do in the laboratory, the field, or the classroom every day.

I am grateful to both AIBS and ASLO for providing me this opportunity. My fellowship experience has given me greater respect for the political system that I had largely disregarded from the laboratory. It is not perfect, it is not clean, and it is not always logical. Nevertheless, it is integral to the way that science operates in this country. Therefore, by learning to understand, or at least work with, the system, I can advance the goals of the overall scientific enterprise. The options through which to facilitate those goals are more varied than I had imagined, and include continued work on the Hill, service in an executive branch department or agency, public affairs or education through a professional society, or even working at the National Research Council. I hope that others will join me in reaching out to the public and to policymakers in whatever capacity suits their personal interests and time constraints.

#### ROSEMARY MACKAY FUND ARTICLES

The Journal of the North American Benthological Society (J-NABS) is pleased to announce a new feature for the journal: a series of articles sponsored by the Rosemary Mackay Fund. The fund is intended to promote the publication of speculative, forward-looking, and philosophical articles on any aspect of benthology, and was named to honor Rosemary Mackay's many years of service as the first editor of J-NABS.

J-NABS solicits submissions. Papers can be multi-authored, and will be peer reviewed. Papers will not normally exceed 20 journal pages. The fund will pay for page charges, and provide an honorarium and 200 free reprints for each successful author or group of authors. Interested individuals are requested to submit a prospectus - not exceeding 2 pages - explaining the focus and scientific significance of their paper, and presenting an outline of the proposed submission. Prospectuses can be submitted at any time and will be evaluated by the Rosemary Mackay Fund Committee of the J-NABS Editorial Board. The Committee will render a decision within 6 wk of receipt of a proposal.

Manuscripts are to be submitted for review within 6 months of approval of a prospectus. Papers will be published as soon as possible after final acceptance, and will appear as the lead article in the newest issue of J-NABS. Interested persons should contact David Rosenberg, Editor of J-NABS, 501 University Crescent, Winnipeg, MB R3T 2N6 (e-mail: [jnabs@dfo-mpo.gc.ca](mailto:jnabs@dfo-mpo.gc.ca); Tel: 204-984-1579).



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## DIALOG IV PROGRAM

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The DIALOG (Dissertations Initiative for the Advancement of Limnology and Oceanography) program was developed in 1993 to facilitate the development of collegial ties and catalyze the exchange of knowledge across the aquatic sciences (see *ASLO Bulletin* 3(1) and 6(2)). It includes collection and analysis of demographic information on recent Ph.D. recipients, compilation and dissemination of dissertation citations and abstracts, and a symposium to bring together 40 recent Ph.D. recipients to foster collegial interactions across the range of aquatic science disciplines.

DIALOG IV is now underway, with another symposium planned for October, 2001. Individuals completing their last Ph.D. requirement between April 1, 1999 and December 31, 2001 are eligible for the DIALOG IV symposium. Visit the DIALOG web page

[www.aslo.org/dialog.html](http://www.aslo.org/dialog.html)

- to view dissertation abstracts submitted by recent Ph.D. recipients in the aquatic sciences,
- to “register” your recently completed Ph.D. dissertation
- to obtain information and updates on the DIALOG program, and
- to apply for the October, 2001 DIALOG symposium.

Application instructions for the DIALOG IV symposium are already posted on the ASLO/DIALOG web page; the deadline for completed applications is May 1, 2001. You may “register” your dissertation at any time. Your dissertation citation and abstract will immediately be posted on the ASLO/DIALOG web site, and your dissertation will be listed in the next issue of the *ASLO Bulletin* (see below).

## DISSERTATION CITATIONS FROM RECENT PH.D. RECIPIENTS

**C. Susan Weiler**, *Biology Department, Whitman College, Walla Walla, WA 99362* (Tel: 509-527-5948; [weiler@whitman.edu](mailto:weiler@whitman.edu))

Below are Ph.D. dissertation citations registered on the ASLO web page since the last Bulletin issue. You may register your dissertation on the ASLO web page, [www.aslo.org/dialog.html](http://www.aslo.org/dialog.html), at any time. All dissertation citations registered in this way will be published in the following issue of the *ASLO Bulletin* and citations and abstracts will be posted on the ASLO web page (same address as above).

All those completing their last Ph.D. requirement after April 1, 1999 are encouraged to apply for the DIALOG IV symposium, which will be held in October, 2001. Symposium information is also posted on the web page.

Congratulations and best wishes to:

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See pp. 11, 28 for information about the  
**DIALOG PROGRAM**

## ASLO STUDENT NEWS

### STUDENT NEWS

Student Board Representatives **Margaret Squires**, Geography Department, Simon Fraser University, Burnaby, BC V5A 1S6 (Tel. 604-291-5663; [msquires@sfu.ca](mailto:msquires@sfu.ca)) and **Cristina D. Takacs**, Department of Environmental Biology, Portland State University, P.O. Box 751, Portland, OR 97207 (Tel: 503-725-5762; Fax: 503-725-8750; [takacs@pyro.esr.pdx.edu](mailto:takacs@pyro.esr.pdx.edu))

In recognition of the value of its student membership, ASLO's first elected student representative, Margaret Squires, is a full voting member of the ASLO Board. Margaret, and previously appointed student representative Cristina Takacs, will represent students on the ASLO Board for the next year. We are your ASLO voice. Talk to us via [studentcom@aslo.org](mailto:studentcom@aslo.org).

We want to remind you that L&O editor Everett Fee continues to post papers on the L&O website which may be of particular interest to students. Featured articles and online discussion of their significance and importance are posted on the website at [www.aslo.org/lo](http://www.aslo.org/lo).

Student-based activities in ASLO have increased dramatically over the past two years. So much so in fact, that we need your help. We are looking for some enthusiastic students to become part of ASLO's newest ad hoc Student Activities committee, which was created at the June, 1998 Board meeting in St. Louis. This is your chance to become involved in the professional scientific community. The two main charges to this committee will be:

- 1) to provide a consensus view of student issues and concerns to the Board of Directors.
- 2) to organize student-sponsored activities at professional meetings or workshops

Applications are now being accepted for appointment to this committee.

Current graduate students who are also members of ASLO can apply for the position, and the ASLO Board will make selections. If you have questions, please contact Maggie or Cristina at the above addresses. Applications should be sent (before December 1) to Maggie Squires and include the following:

- 1) Name, address, phone, e-mail, institutional affiliation, degree sought and date began graduate study.
- 2) Statement of interest in serving on this committee
- 3) Brief CV (2 pages maximum).

Also, on the next ASLO ballot, members will elect another student to the ASLO Board of Directors. Please read the article below for more information.

Stay in touch with us and ASLO! Margaret and Cristina

### STUDENT BOARD REPRESENTATIVE: APPLICATIONS REQUESTED

In 2000, ASLO will elect a second student representative to serve on the ASLO Board of Directors. Cristina Calderon and Karla Heidelberg were appointed by the Board in 1997 as non-voting members, and this year the membership elected Maggie Squires as the first student elected to the

Board. Cristina will remain on the Board until July 1, 2000 when the second elected student assumes his or her position. Under this system, there will always be two students on the board with overlapping terms.

The Nominations Committee will select two candidates from among applications submitted by students to appear on the ballot. The student receiving the majority of votes cast will be elected. The term is for 3 years, beginning on July 1, 2000. Students who complete their thesis before their term expires may complete the term.

If you are interested in serving as a candidate for Student Representative, contact current representatives Cristina Takacs ([takacs@montana.edu](mailto:takacs@montana.edu)) or Maggie Squires ([msquires@sfu.ca](mailto:msquires@sfu.ca)) for information about responsibilities and level of effort. You must also submit a Statement of Interest including the following to [weiler@whitman.edu](mailto:weiler@whitman.edu):

1. Name, address, phone, fax, e-mail, institutional affiliation, month/year graduate study began, month/year degree expected and number of ASLO meetings attended.
2. Statement of interest in serving on the ASLO Board; include any background that might be relevant.
3. Brief CV (2-page maximum)
4. Two letters of recommendation, one of which must be from your advisor (ask writer to send it directly to [weiler@whitman.edu](mailto:weiler@whitman.edu)).

### Deadline for completed applications

**November 1, 1999**

### Contribute to ASLO's Future!

Contact your student representatives with your comments, concerns, or ideas:  
**Maggie Squires** ([msquires@sfu.ca](mailto:msquires@sfu.ca))  
**Cristina Takacs** ([takacs@montana.edu](mailto:takacs@montana.edu))

Subscribe to the student mailing list  
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To subscribe, go to  
[www.aslo.org/mailman/listinfo/students](http://www.aslo.org/mailman/listinfo/students)  
The subscription procedure is self-explanatory.

We look forward to hearing from you!

## STUDENT REPRESENTATIVES REPORT - JULY 1999 BOARD MEETING

*Karla Heidelberg* (kh59@umail.umd.edu, *Magaret M. Squires* (msquires@sfu.ca), and *Cristina D. Takas* (takacs@pyro.esr.pdx.edu)

In the last year, Cristina and Karla have graduated, relocated, and started post docs. Karla rotated off the Board this past July. In order to facilitate the transition of new student representatives, our term endings will be staggered. Cristina will stay on one more year. We are pleased to welcome Margaret (Maggie) Squires as the new Student Representative. Thanks to the Board's support and a membership-voted bylaws change, Maggie will be the first voting Student Representative.

### I. Past Activities:

Most of our efforts have been focused on meeting-related activities. Both Cristina and Karla have worked closely with Meetings Committees and the business office to plan activities.

**A. Jobs Board:** The jobs board has been one of the easiest ways that we can serve ASLO members. One week prior to meetings, a handful of students are asked to locate ASLO-appropriate job announcements on the web and bring copies to the meetings. The jobs are then organized by discipline and/or level and posted.

**B. Alternative Housing:** For the past 2 years, Cristina has been using the student listserver to provide a roommate service and information about housing option in meeting cities. This has been an entertaining and popular service.

**C. Student Breakfast:** The Board approved funding for a student breakfast at the 1999 Santa Fe Meeting. This was well attended and we hope to continue this activity in the future. We would like to thank The Schneider Group for their help and logistical organization of this activity.

**D. Student Led Field Trip in Santa Fe:** At the 1999 Santa Fe Meeting, a small group of students participated in an organized ski trip after the meeting. This was successful despite minimal organization and similar activities should be tried at other meetings.

**E. Fundraising:** Mugs were sold at the Santa Fe Meeting. Students were used to man sales table in the ASLO Booth. We will sell the rest of the mugs at upcoming meetings.

### II. Future Directions:

**A. Student activities committee:** A student activities committee was established during the 1999 Election and Bylaws Changes vote by the membership. This committee is just getting off the ground, however we hope this committee will facilitate the implementation of meeting activities described above. Currently there are 4 people on this committee: Karla Heidelberg-chair (kh59@umail.umd.edu), Agnieszka Pinowska (pinowa@bgsu.edu), Chris Scholey (caschole@julian.uwo.ca), Luca D'Ottone (ldottone@rsmas.miami.edu), and Margaret Squires (msquires@sfu.ca).

**B. Web Page:** A major long-term proposed activity will be the development and implementation of an on-line web page offering a global collective cranium of scientists providing answers to questions. The web is the perfect venue for

offering the scientific community the opportunity to further the cause of science literacy in the general public. A good example is the "Ask a Scientist" site run by Washington University School of Medicine (<http://medinfo.wustl.edu/~yssp/>). This well-designed site relies on a dedicated group of college students and scientists in a variety of positions to answer questions. We are looking for a set of aquatic scientists (both students and professionals) to help us run a similar site. When scientists volunteer to participate in this group, they identify their area of expertise, and their email address is coded for sorting. The coding allows for questions to be funneled appropriately.

Students posing questions will be provided with clear guidelines about the type of questions they should pose to this server. The question form will also ask the student to specify their age, so answers can be geared appropriately.

As the site develops, question/answer pairs will be maintained in an archive that can be viewed by webpage visitors. There will be links to the most commonly asked and answered questions, as well as links to other information resources. We will be working closely with the ASLO web editor, Paul Kemp, for the design and implementation of this project. Also, Karla will apply to various funding agencies to help defray costs associated with this project.

**C. Educational initiatives:** We are in the early planning stages for developing student-sponsored workshops to be held during meetings. If you have any ideas please contact Cristina or Maggie.

**D. Student Service on ASLO Committees:** As students become more active, we hope to be able to involve more students on other appropriate ASLO committees (in addition to the Student Activities Committee).

## MY EXPERIENCE AS AN ASLO STUDENT REPRESENTATIVE

*Karla B. Heidelberg*, Department of Biology, University of Maryland, College Park, MD 20742. (Tel: (301) 405-8021, Fax: (301) 314-9358; kh59@umail.umd.edu)

My experience serving as the student representative on the ASLO Board has been both enlightening and rewarding. I am grateful for the opportunity to have been an active participant in ASLO during this exciting period. I have seen head-spinning changes in the level of activity of the society, and have worked along side busy professionals who have chosen to make a difference in this rapidly growing field. As I watch all these changes, I cannot help but think about how newly graduated scientists will fit into the field.

What does the future look like for new graduates? A quick peruse on the web yielded at least 108 institutions offering degree programs in the Atmospheric, Oceanic, Hydrologic, and related sciences. If these programs only produce a few graduates each semester that is still a huge influx of professionals into the field each year! Competition can and will be fierce for the few jobs and grants available. So, graduate students will have to make an active effort to single themselves out from the masses. What can be done to increase desirability to employers? The traditional way to

become successful is to carve out a niche or develop a distinguishing skill. New technologies are allowing us to re-evaluate ecosystems, and established institutions would like to incorporate the new technologies into their research goals. Yet competency in a few skills is no longer enough.

As pointed out by Alice Alldredge in a talk at the last Santa Fe ASLO Meeting, success is a combination of hard work and luck. In my experience, much of the "luck" comes from taking advantage of multiple opportunities to expand the educational experience and meet a variety of people. As students, it is easy to let our lives evolve around thesis research projects, becoming somewhat divorced from other activities. The isolation can produce narrowly focused scientists who will graduate into a scientific environment needing people who can work across disciplines.

Lastly, students can play an active role in the professional side of the scientific community. Learning to identify and communicate the needs of the scientific community to legislators and the general public is a valuable skill. Effective communication decreases mis-information and allows us to convey our needs to public policy makers in a timely and effective manner. Although not always at the forefront of our minds, this type of communication allows scientists to take an active role in the future direction of their field.

What can you do? Get involved in the graduate experience. Participate in professional, service, and community outreach activities whenever time allows. Local activities can be just as valuable as larger-scale activities. Historically graduate students have not played active roles in their professional societies. Within ASLO this trend has changed, and I encourage students to take advantage of the recently opened doors and get involved. Remember the other students that you meet and work with during these activities will someday be your professional colleagues. Besides help with general organizational activities, students could sponsor special topic

symposia in conjunction with future meetings. If you have ideas or opinions about this, please contact a student representative to share them.

Another area of potential activity is the World Wide Web. This venue offers the scientific community the opportunity to further the cause of science literacy in the general public. A good example is the "Ask a Scientist" site run by Washington University School of Medicine. This well-designed site relies on a dedicated group of college students to answer questions posed by mostly K-12 students. The relative closeness of age between university students and K-12 students works well to foster the interaction both for the purposes of science education. The site also maintains links to the most commonly asked and answered questions. I would like to see the Student Activities Committee develop one of these pages and will spearhead this project if enough volunteers with an interest in web activities come forward. If you are interested in getting involved with this activity or others like it, I encourage you to contact me by email with your ideas.

At meetings, several students have commented to me that despite coming to meetings, you feel no sense of belonging. Part of this is that you are a relatively new member to a well-established organization. However, you now have a way to become involved.

I urge students to contact Cristina (takacs@pyro.esr.pdx.edu) or Margaret (msquires@sfu.ca) with your comments, opinions, or ideas! As my term on the board ends, and I would lastly like to congratulate Margaret on becoming the next of many student representatives. I am grateful for the opportunity to have served in a professional society with established scientists who have the foresight to encourage student involvement.

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## 2000 ASLO AWARD NOMINATIONS

### ASLO AWARDS

**Michael J. Vanni**, 1999 Awards Committee Chair, Zoology Department, Miami University, Oxford, OH 45056

Here is your chance to show your peers that their efforts are appreciated! All ASLO members have been directly influenced by one or more of the leaders in aquatic sciences, and are inspired by exciting new work being conducted by younger scientists. A great way to recognize these individuals and their accomplishments is by nominating them for one of ASLO's awards (see facing page). Please take the time to nominate your colleagues!

The 2000 awards will be presented at the Annual Meeting in Copenhagen, Denmark in June 2000.

Awards and previous awardees include (in chronological order):

**Raymond L. Lindeman Award:** James W. Ammerman, Marlon R. Lewis, Cabell S. Davis III, James J. Elser, Bart T. De Stasio, Jr., Sherry L. Schiff, John R. Reinfelder, David C. Smith, Ulf Riebesell, Deborah A. Bronk,

Christopher Freeman, Kathleen R. Laird and Carla E. Cáceres;

**G. Evelyn Hutchinson Award:** Gene E. Likens, John E. Hobbie, Richard W. Eppley, David W. Schindler, Eville Gorham, Lawrence R. Pomeroy, Trevor Platt, Daniel A. Livingstone, W. Thomas Edmondson, Richard C. Dugdale, Robert G. Wetzel, Timothy R. Parsons, Peter A. Jumars, Farooq Azam, Robert E. Hecky, Bess B. Ward, David M. Karl and Stephen R. Carpenter;

**Lifetime Achievement Award:** Kenneth H. Mann, Clifford H. Mortimer, Ruth Patrick, Alan R. Longhurst, Karl Banse and Charles Yentsch.

**Ruth Patrick Award:** Edward D. Goldberg.

### Nomination Deadline:

**November 15, 1999**

## ASLO 2000 AWARDS: NOMINATION INSTRUCTIONS

ASLO recognizes its most outstanding scientists with the following awards:

- **Raymond L. Lindeman Award**, recognizing an outstanding paper first-authored by a young aquatic scientist;
- **G. Evelyn Hutchinson Award**, recognizing a mid-career aquatic scientist who has contributed significantly to the field of aquatic sciences in the preceding 5-10 years;
- **Lifetime Achievement Award**, recognizing an aquatic scientist who has made extraordinary, long-term contributions to the field; and, the newly created
- **Ruth Patrick Award** for environmental problem solving in the aquatic sciences, recognizing outstanding research by a scientist in the application of basic principles of aquatic science to the identification, analysis, and/or solution of important environmental problems.

Awards will be presented at ASLO's annual meeting in Copenhagen, Denmark (June 5-9, 2000).

### **Please send nominations to:**

C. Susan Weiler, Executive Director  
weiler@whitman.edu or Biology Dept. Whitman College, Walla Walla, WA 99362

### **Nomination Deadline: November 15, 1999**

#### **Raymond L. Lindeman Award**

Eligible papers must deal with aquatic sciences, be written in English by an author who is no older than 35 years in 1998, and must be published in a 1998 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. The nominee must be first author if there is more than one; nominees by close colleagues, including advisors and co-authors, are permitted.

#### **G. Evelyn Hutchinson Award**

This award recognizes 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 extent of contributions made by the nominee.

#### **Lifetime Achievement Award**

This award recognizes 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 extent of contributions made by the nominee.

#### **Ruth Patrick Award**

This award recognizes an individual who has made a sustained contribution to environmental problem solving or one who has made a single, but critical, study of a very important environmental problem. The award will be offered every two years; nominations are accepted at any time. 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 extent of contributions made by the nominee.

*Details are published in the 1998/1999 ASLO Directory (see pp. viii-ix) and at [www.aslo.org/awards.html](http://www.aslo.org/awards.html)*

## ASLO FORUM

### **TWO YEARS BEFORE THE BUREAUCRACY: A PERSONAL NARRATIVE OF LIFE AT NSF OCEAN SCIENCES (with apologies to Richard Henry Dana)**

*Jim Ammerman, Department of Oceanography, Texas A&M University, College Station, TX 77843-3146 (Tel: 409-845-5105; Fax: 409-845-6331; jammer@ocean.tamu.edu)*

*“You know you have arrived at the government when the first thing they hand you is a list of acronyms.”  
(Anonymous NSF IPA)*

This is written for both those who are considering serving as a temporary National Science Foundation (NSF) program officer and for those who would just like a little more insight into how NSF works. I provide this perspective not through the eyes of a career NSF staffer, but as a regular member of the aquatic science community who spent a couple of years “on loan” to the Foundation. I should emphasize that most of my experience was in the Division of Ocean Sciences (OCE), one of the first things you learn at NSF is how diverse are the operations of the different divisions. The opinions expressed are solely my own.

I spent the period from June of 1996 through August of 1998 as a “rotator” (technically an IPA or a detailee under the Intergovernmental Personnel Act) in the Division of Ocean Sciences at the NSF. I served as an Associate Program Manager in the Biological Oceanography Program. At any one time, up to a third of the program officers at NSF are “temporary help”, mostly from academia, and are classified as either IPAs or Visiting Scientists. These rotators not only provide fresh scientific expertise to NSF and help the foundation meet its increasing workload without adding FTEs, but the rotators themselves gain detailed knowledge about the workings of the proposal review and grant administration processes at NSF.

For an IPA, NSF simply makes a grant to one’s home institution and the salary and benefits continue from there. A typical IPA serves one to two years, though can serve up to four years. NSF pays either moving expenses to and from one’s home or more commonly a significant per diem which should more than cover moving expenses for most people and allows more flexibility. The taxes applicable to the per diem vary with the planned length of service, so this should be investigated in advance. NSF will also pay transportation costs for periodic visits back to one’s home institution (see below). NSF will also send you to important meetings in your field, such as the Ocean Sciences or ASLO meeting. There you will represent the Foundation and perhaps gain some temporary new friends, but you can also participate as a regular member of the community. You will also get to attend a one-week program managers’ school, or “boot camp” in NSF parlance. Most of your proposed outside activities (cruises, meetings, visits home, etc.) will be outlined early in your NSF career in an independent research plan. An alternative but less common status for temporary program officers is the Visiting Scientist, in some cases it may have advantages so it is worth checking out.

Many scientist have impressions of how NSF works based on their experiences as principal investigators (PIs), reviewers, and panelists. While these are all valuable experiences, none gives you the whole story to be had by serving as a program officer, though being a panelist comes closest. While these may provide considerable insight into the peer review process, none except serving as a program officer gives you the chance to participate in the important but difficult (and sometimes agonizing) task of making the actual funding decisions. While peer review is almost always the dominant factor in such decisions (and therefore the continuing need for thoughtful review input from reviewers and panelists), program officers must weigh numerous additional issues when making these decisions. Though the decision-process is not always neat, its general success is the reason for NSF’s reputation for fairness. I believe that most program officers bend over backwards to make the competition fair, especially as the competition continues to get tighter.

First and foremost, NSF should be viewed as a customer service agency, serving both the funded and unfunded alike, it is unfortunate that not everyone who would like to can become a funded “customer”. The most rewarding part of my tenure at NSF was dealing with PIs and prospective PIs, and I am proud of the service that I rendered to most of those who contacted me with questions or problems. It is unfortunate that more interested scientists do not contact NSF program officers, after all that is what the NSF staff are there for, many PIs could save themselves a lot of trouble if they would just contact their program officer. So, next time you hesitate, go ahead and make that call (or send that e-mail), most of the time the program officer will be happy to help. I would especially urge new PIs to identify and contact an appropriate NSF program officer before beginning a proposal to make sure that they are on the right track. NSF is also always looking for new proposal reviewers, so new PIs should also volunteer their services, it gives such new PIs a chance to evaluate proposals in their area of expertise and increases the available reviewer pool. (For more information on the all-important issue of communication, see Mike Purdy’s article on the front page of the Division of Ocean Sciences Spring 1999 Newsletter, call 703-306-1580 or visit <http://www.nsf.gov/cgi-bin/getpub?nsf99128> to get a copy.)

The one aspect of customer service that is NOT fun is calling PIs whose proposal has been declined. It is a long-standing tradition in OCE to do this, but that does not make it any easier, many other parts of NSF do not make such calls. Fortunately, nearly all PIs take the news with grace, many are relieved just to get a decision. As a PI you should realize that you are in good company when you receive such a call, many of your colleagues, both senior and junior, are getting the same message. The best thing you can do is to prepare a resubmission with the utmost attention to the comments generated by the peer review process. After

receiving your reviews, you should contact the program officer if you have questions or need to have issues clarified. The Biological Oceanography Program deals with lots of resubmissions and has specific mechanisms for making sure that PIs get generally consistent advice from review panel to review panel.

Another aspect of a program manager's job that is not a lot of fun is the paperwork. All the details of the peer review process are meticulously detailed for both awarded and declined proposals so they can be referred to in the future if needed. Declined proposals are always attended to first so that the PIs can prepare resubmissions for the next target date. Award processing is more involved and takes longer, but there is no resubmission pressure. Be patient with your program officer if they take a little while to get your reviews out, they are probably dealing with a couple of dozen other proposals at the same time. I know that it took me a proposal cycle or two to get up to speed on documenting the proposals in a timely way, it was probably the weakest part of my performance as a program officer.

You may wonder what happens to your lab while serving as a program officer. There is no doubt that having two jobs (both your NSF one and your regular one) slows one's scientific productivity. How much this happens varies a lot with your field, your type of lab, and how busy your NSF program is. During my 2.25 years at NSF, I returned to Texas A&M nearly every other month except during busy panel periods, and continued to direct a couple of graduate students (it helps to have students who can work independently), and participated in two separate two-week cruises. I also attended several workshops as an NSF staffer including two of the disciplinary workshops on the future of biological and physical oceanography. I collaborated on a number of research papers but found it difficult to make a lot of progress on papers on which I was the lead author.

Though there were a few slack periods, for most of the time I was at NSF, the Biological Oceanography Program was very busy. In addition to our two regular rounds of proposals each year, the Program was involved in numerous other special programs in collaboration with other programs in OCE, other divisions of NSF, or other agencies. These included Global Ocean Ecosystem Dynamics (GLOBEC), US Joint Global Ocean Flux Study (USJGOFS) Synthesis and Modeling, Ecology of Harmful Algal Blooms (ECOHAB), Life in Extreme Environments (LExEn), Long-Term Ecological Research (LTER), and Field Stations and Marine Labs. There were times during my NSF tenure when the Program ran two or three review panels and participated in two or three more, all in a period of six or seven weeks.

Probably the most exciting part of my NSF experience was working with the LExEn Program. For a microbial ecologist like me, it includes a lot of stimulating science. My first year at NSF was also the first year of this new interdisciplinary program, and I served as an OCE representative on the NSF LExEn review team. The second year OCE, particularly Biological Oceanography, was in charge of the LExEn review team, and Phil Taylor (the Program Director for

Biological Oceanography) and I chaired the review team with the able assistance of our science assistant, Sean Powers. This was also an excellent way to meet and interact with many staff members from other NSF divisions. Such contact made me much more aware of potential funding opportunities for my own future research within other parts of NSF. During my last six months at NSF, my major efforts were devoted to the LExEn Program.

While it is nice to see the beginning of exciting new interdisciplinary programs, one is always concerned for the continuing adequate support of the core programs (i.e., biological oceanography, chemical oceanography, etc.). In the political hothouse of Washington, new programs are as inevitable as the cherry blossoms. They seem to be essential to maintain the interest of Congress and the science policy makers. Some of these new programs, like LExEn, generate considerable excitement in the scientific community, others less so. The most successful ones seem to be those with the most initial community support, those generated mostly from the "bottom-up", if you will. In these cases, the new programs may facilitate new interdisciplinary collaborations which can produce quantum leaps in understanding. While some new programs generate new funding, others appear to compete with both the core programs and other special programs for funding and especially for the program managers' time. It is a good idea to express your opinions about such programs, both pro and con, to NSF.

Though written a bit tongue-in-cheek, this essay has been serious attempt to review my two years at NSF. In general it was a very good experience, and I would like to thank all those on the OCE and NSF staff who made it that way, they are far too numerous to name here. I would also like to thank Sue Weiler, who invited this bit of reflection, she probably wondered it was ever going to show up. I would recommend serving as a temporary program officer at NSF to many members of the scientific community, especially assistant professors who have just achieved tenure, researchers on soft money who need a break, and scientists considering career transitions. There is no better way to get a perspective on the current cutting-edge research in your field. Furthermore, it renders an important service to the aquatic science community. OCE visiting program officers typically serve two years, which has advantages to both NSF and the rotator in terms of learning the system. However, a one-year stint would detract less from one's own research program, and many other programs at NSF (the Biology Directorate comes to mind) utilize numerous one-year rotators. Both prospective rotators and NSF should approach this and other issues with considerable flexibility.

The following NSF website provides detailed information on "rotator" positions:

**[www.nsf.gov/home/chart/rotate.htm](http://www.nsf.gov/home/chart/rotate.htm)**

Please feel free to contact me if you would like further information and perhaps even a little insight.

## **NEW MARINE SCIENCE AND TECHNOLOGY DEGREE AND COMPANION INTERNSHIP PROGRAM**

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The Marine Advanced Technology Education (MATE) Center, a National Science Foundation (NSF)-funded partnership of organizations concerned with marine science and technology education, is launching a new degree program at its Monterey Peninsula College (MPC) headquarters. The Marine Science and Technology Associate's degree and certificate program begins this fall semester at MPC with courses geared to prepare students for careers in marine science and technology. In recognition of the importance of hands-on learning, the MATE Center has also launched a technical internship program designed to give interested students the opportunity to work with employers and gain valuable on-the-job experience.

The new Marine Science and Technology curriculum at MPC includes courses such as field sampling and methods, research diving and safety, technical writing, marine electronics, and introduction to Remotely-Operated Vehicles (ROVs). MPC faculty members are developing components of the curriculum in collaboration with industry, working with organizations such as the Monterey Bay Aquarium Research Institute, Deep Ocean Engineering and Sonsub International (manufacturers of ROVs and other underwater intervention technology), and the U.S. Navy, for example, to develop the ROV component of the program.

Internship experience is an important and required component of the curriculum. The MATE Center, with supplemental funding from the NSF, launched a technical internship program this summer focussed on shipboard technical operations. Both the University-National Oceanographic Laboratory System (UNOLS) Fleet, a fleet of research vessels supported in part by the NSF, and the Ocean Drilling Program (ODP), an international partnership of scientists exploring the sea floor, are hosting these paid internship positions. Working with a marine technician onboard a research vessel, students have the opportunity to develop their technical, scientific, and interpersonal skills.

The MATE Center and MPC have also arranged internships with many private companies and government agencies in the Monterey Bay region. Plans exist to expand the program nationwide in the near future. Available internship opportunities include positions in marine technology, marine and biological research, field sampling and monitoring, conservation, environmental chemistry, water quality, aquaculture, diving, marine construction, marine electronics, environmental consulting, GIS, and others.

For more information on the MATE Center, the new Marine Science and Technology program, and available internships, contact the MATE Center at (831) 645-1393 or [info@marinetech.org](mailto:info@marinetech.org), or visit the Center's web site at [www.marinetechnology.org](http://www.marinetechnology.org).

## **ALPINE LAKES AND STREAMS**

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Although for many people the word "mountain" is associated with opportunities for mountaineering, alpine sports, fishing and other forms of recreation, mountain regions are home to about one-tenth of the global population and occupy one-fifth of the Earth's land surface. Mountain ecosystems make a vital contribution to the water supply of all of the world's great rivers, and also provide essential resources to at least half of humanity. In addition, they are some of the least disturbed ecosystems still found in many parts of the world. However, the global importance of mountain ecosystems has only recently begun to be recognized, together with the need to understand and to react to the changes that they are increasingly experiencing. One step forward in recognizing their global importance has been the declaration of 2002 as the International Year of Mountains.

As stated in the Second Assessment Report of Working Group II of the Intergovernmental Panel on Climate Change (IPCC), many of the resources supplied by mountainous ecosystems, including water, are likely to be affected by climate change. In particular, climatic warming has been very pronounced in certain alpine regions, with strong effects on glaciers and on the alpine-nival flora. Alpine aquatic ecosystems can be considered as early warning areas for monitoring climatic warming effects, because of their sensitivity to increased air temperatures. Another important current issue is how the progressive increase of solar UV-B irradiance may impact alpine lakes and streams, which are usually very transparent to UV radiation. Finally, there are other environmental problems that affect alpine aquatic ecosystems in many parts of the world and compromise their "pristine" and "remote" character, for example, the long-range atmospheric transport of organochlorine compounds that accumulate at high elevations, and the introduction of exotic species, mainly fish.

In connection to these topics, I would like to call the attention of those working in alpine aquatic ecosystems on the International Symposium "*High Mountain Lakes and Streams: Indicators of a Changing World*" to take place in Innsbruck, Austria between 4-8 September 2000. This would certainly be an excellent opportunity to discuss among others issues those mentioned above. The invitation is also extended to scientists working in high latitude aquatic environments that share many similarities with alpine ecosystems. The "Call for papers" was distributed last March and those interested to attend this event and have not yet received it can write to [hmls2000@uibk.ac.at](mailto:hmls2000@uibk.ac.at) to be included in the mailing list. Further details of this scientific event can be obtained by visiting the Symposium's URL at [zoology.uibk.ac.at/congress](http://zoology.uibk.ac.at/congress).

## IN MEMORIAM: DONALD W. PRITCHARD

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On 23 April 1999 Donald William Pritchard died. He was 76. He died as he lived—giving back to the community. He was driving to his home in Severna Park (MD) with a colleague from a meeting on a project he was doing for his local Rotary Club. He pulled over to the side of the road, applied the emergency brake, told his companion that something was happening to him, and slumped over the wheel with a massive stroke. He died about 20 hours later. There were few situations in his life that Donald Pritchard was not in control of.

I had the good fortune of knowing Donald Pritchard for 40 years. He was my Ph.D. thesis advisor, my colleague, and my friend. He served as a model for me and many others as scientist, academic administrator, professor, mentor, public servant, and human being. Pritchard the scientist and his scientific accomplishments are well documented and well known. Pritchard the man and what made him so influential beyond his scientific discipline and what made those who worked with him and studied under him so loyal and appreciative is less well known.

Donald W. Pritchard was born in Santa Ana, California on 20 October 1922. He attended the California Institute for his first two years of undergraduate study then transferred to the University of California at Los Angeles. He was the starting quarterback on the Cal Tech football team during his sophomore year. He had a distinguished military record in World War II. He was a weather officer and forecaster of sea and surf for amphibious landing operations at Normandy for the U.S Army expeditionary Force in preparation for D-Day. He and Robert Reid were partners in the same unit and together set up the first Allied weather station on the continent on D-Day plus 1. He received his bachelor's degree in meteorology from UCLA in 1946, his MA in 1948 and his Ph.D. in oceanography in 1951 from the University of California's Scripps Institution of Oceanography. The famous oceanographer and co-author of *The Oceans*, Professor Harald Ulrick Sverdrup was his major professor.

Donald Pritchard and Thelma Lydia Amling were married in 1943. They had five children. They have 11 grandchildren and 3 great grandchildren. One of their daughters, Suzanne Pritchard Lebowitz died in 1994 of amyotrophic lateral sclerosis, commonly called Lou Gehrig's disease.

Pritchard had an insatiable appetite to understand natural processes, particularly coastal processes, and how humans affected those processes. I think it can be said safely that no one person could match the depth and range of his understanding of and his contributions to our understanding of the physics of estuaries. Armed with that knowledge, he was a leader in developing sustainable strategies to allow humans to live in greater harmony with the coastal ocean. It was never enough for Don to understand the "what" and the "how"; he always needed to know "why". And, the "whys" always came in packets of at least three: why? why? why? Each "why" lead him to a deeper understanding. His intuitive powers were unmatched by anyone I have ever known.

Pritchard spent virtually his entire professional career at two institutions—the Johns Hopkins University and the State University of New York at Stony Brook. He left an indelible mark on both.

In 1949 Don Pritchard became the first full-time director of the Johns Hopkins University's Chesapeake Bay Institute. He was 27. His official title was associate director because he had not yet received his Ph.D. When he did in 1951, his title was changed to director. In 1950, he founded and became the first chairman of JHU's Department of Oceanography. Under his leadership both achieved distinction and both contributed far out of proportion to the sizes of their senior staffs. The Department of Oceanography's faculty numbered five. Never more. The senior research staff of CBI never exceeded 10. Both organizations thrived under Don's leadership and enjoyed outstanding reputations.

Pritchard's philosophy of management was simple: set high standards, nurture a shared vision, hire the best people, and give them the freedom and the resources they needed to thrive. He did. I have never experienced a more demanding and more nurturing environment than the one he created at the Chesapeake Bay Institute. If you had an idea and needed a few days of ship time to test it out, you had it. If you needed a new instrument to make a critical measurement and none existed, there were outstanding engineers to design and built it for you. For Pritchard, every project was an experiment and no experiment was a failure if you learned something from it. The question of who would pay for it always came later. This was one of the advantages of core support.

You always knew Don was there ready to throw you a lifeline, if you needed it, but that he would let you go as far as your talents and your courage could take you. Long before I read about flat organizations, learning organizations, servant leadership, chaordic organizations, and all the other "buzz words" of modern management, I experienced them with Don. We lived on the edge of chaos and loved it. It was a world in which risk-taking was encouraged and in which the cost of failure was low. As a result, creativity and productivity were high.

I shall never forget that once as a graduate student I was exasperated about a project the Chesapeake Bay Institute had undertaken and that seemed to be adrift. One day I stormed past Don's secretary and into his office and blurted out that I was taking over the project. He looked up from his work, smiled ever so slightly, and said, "What took you so long?" and returned to his work.

For the most successful estuarine animals who must cope with large and rapid changes, success goes to the generalist rather than to the specialist. This was a quality Don exemplified and one he instilled in his students and colleagues—much to the consternation of some of those we dealt with in other organizations. Pritchard insisted that you develop deep expertise in a specialty, but no one was allowed to remain ignorant of the whole. Don specialized in coastal physics, but he did not shrink from problems that had major biological, chemical, and geological implications. He loved to challenge others on their turf

and often provided powerful, new insights they hadn't thought of. It happened to me on numerous occasions.

I left Johns Hopkins in 1974 to become Director of Stony Brook's Marine Sciences Research Center. The situation had changed at Johns Hopkins. Oceanography had merged with Geology to form the Department of Earth and Planetary Sciences. CBI was targeted to be moved off campus. The applications of science to solving problems were less in favor than previously. All of this happened while Don was sidelined with a battle with cancer, a battle that he ultimately won.

In 1978 I offered Don the position of Associate Director for Research at the Marine Sciences Research Center. I told him it was the only way I could get even with him for all he had done to me. In fact, it was an opportunity to work with him again and to gain his unique strengths as we sought to capture some of the best qualities of the old CBI in developing a new model for a coastal center, one which focused on "Making Scientific Research Count." He joined us at Stony Brook in 1978 and remained until he retired in 1988. He was Associate Director for Research, later Associate Dean for Research, and did a stint as Acting Dean while I served as the University's Provost. His influence on MSRC was deep and pervasive.

In 1991 The Estuarine Research Federation organized a session to summarize our knowledge of estuarine processes and phenomena. I was asked to produce the overview of estuarine physics. In preparing the paper, I consulted with many estuarine physicists around the world. One question I always posed was "What single individual had the greatest influence on our understanding of the motion and mixing in estuaries?" There was near unanimity that the one person above all others who had shaped our thinking about the physics of estuaries was Donald W. Pritchard. He asked the best questions—the deepest, richest, most penetrating questions—and was dogged in his persistence in seeking answers. Sometimes it took many years, but he always seemed to have the unresolved questions somewhere in the back of his mind waiting for the right time—the development of a new instrument, the arrival of a new graduate student with a particular skill set, or a theoretical breakthrough.

Because of his brilliance, his persistence, and his uncanny ability to combine aspects of the theoretician with the experimentalist both in the field and in the flume, he found the simple in the complex. I have never observed anyone who could match him in the ability to find patterns in sets of seemingly disparate data. He used to like to quote Ptolemy who had said, "it is the role of the scientist to tell the most plausible story that saves the facts". Don was a master at "saving the facts." Oliver Wendell Holmes once said: "I wouldn't give a fig for the simplicity this side of complexity but I would give my right arm for the simplicity on the other side of complexity." Pritchard was consistently able to find the elegant simplicity on the other side of complexity.

Don and I wrote a number of papers together over the years. The most recent was an attempt to recreate the physical conditions that existed in the Chesapeake Bay at the time John Smith sailed into the Bay in 1607. The paper will be included in a book to be published later this year by the Johns Hopkins University Press. Shortly before he died, we talked about collaborating on

a paper we had both worked on independently off-and-on for a number of years—a comparison of Chesapeake Bay and Long Island Sound. We would have called it "A Tale of Two Estuaries."

Pritchard was always an indefatigable worker, regardless of the task. He never understood that not everything worth doing is doing well—something every academic administrator must learn if he or she is to survive. He had to do everything well. His colleagues from the early days at CBI tell some wonderful stories about him in the field. The late H. H. Whaley and R.C. Whaley, both old friends of Pritchard and long-time CBI staff members, recall an early dye tracer study in Holland Straits. Pritchard spent most of his time under a black cloth watching a fluorometer and repeatedly calling out, "continue the run." On one occasion Bud Whaley who was at the wheel of the small boat watched and listened incredulously as the shore loomed before him. Pritchard's insistence from beneath his black security blanket continued. After some time Whaley called out, "what should we do now?" and Pritchard gave his usual reply "continue the run." Bud looked at colleagues on deck with amusement and called back, "I can't, we've been aground for the last five minutes." Pritchard was an inveterate tinkerer. It was a standing joke at CBI and later at MSRC that all instruments had to be "Pritchard Proof." It was not unheard of to install phony knobs and buttons on some so he could adjust something without disturbing the instruments.

Pritchard received many awards over the years. Among the most notable were being singled out as the first recipient of the Mathias Award in 1990 named in honor of Maryland's former Republican U.S. Senator Charles McC. Mathias for his contributions to the Chesapeake Bay. He was particularly proud of this one because he had had a love affair with the Chesapeake Bay by then that had extended over nearly half a century and his flirtations with Long Island Sound were only a minor distraction. He was also particularly proud of being the first recipient of the William E. Odum in 1997. He received an honorary Doctor of Science degree from William and Mary in 1985 Award by the Estuarine Research Federation because it came from his peers. He was elected to the National Academy of Engineering in 1993, and was a fellow of the American Geophysical Union.

I am one of many former students and colleagues who shall miss Don. We have no choice. He profoundly affected our lives and his death leaves a terrible void. Those who studied and understood Don's scientific papers were better scientists. Those who worked with him, understood what drove him, and heeded those lessons were better people.

Don was devoted to his family and his god. Don was a deeply religious man and when we were upset about something or someone he was quick to remind us of Saint Paul's admonition that we should put the best possible construction on things. This was particularly true if the attacks were directed against him. I'm trying to put the best possible construction on Don's death, but am having trouble. There are so many things we intended to do together that probably never will be done. Without my mentor the intellectual ferment and the clash of ideas that characterized any Pritchard project are lost.

## **BENJAMIN CUKER NAMED 1999 PEW MARINE CONSERVATION FELLOW**

ASLO member Ben Cuker has received one of 11 Pew Marine Conservation Fellowships for 1999 to establish a sea-going educational program for minority students. This program will build on the minority student initiative that Ben started through ASLO (see p. 8), a program that will continue. On behalf of ASLO and particularly the many students you have fostered and will foster in the future, *Congratulations Ben!* The following is the Press Release issued by Pew Fellows Program.

BOSTON, July 12 - When Benjamin Cuker attended professional conferences as a marine scientist, he would look around the room and notice something was definitely lacking. In a field where biodiversity is generally taken as a reflection of the marine ecosystem's health, there was scarce little diversity among the scientists themselves.

"I thought, that's not reflective of the world I live in," Cuker said about the meetings that drew thousands of scientists but maybe only one or two individuals of color. As a result, in 1989 Cuker began an initiative within the American Society of Limnology and Oceanography (ASLO) to attract minority students and encourage their participation in the profession. Cuker's efforts to promote diversity within the sciences actually extend back to his years as an undergraduate student, and his efforts through time have received support from both the National Science Foundation (NSF) and the United States Environmental Protection Agency (EPA).

Recognizing the important and necessary perspectives individuals from different backgrounds bring to solving the serious challenges the marine environment faces, the Pew Fellows Program in Marine Conservation has selected Cuker as one of 11 Pew Fellows in this year's cohort. The recipients of the tenth annual Pew Fellowships range from an environmental journalist, to academicians and national policymakers, to an underwater photographer and an environmental lawyer. They will each receive an award of \$150,000 to carry out an innovative, interdisciplinary project that addresses an urgent conservation challenge facing our seas. The total of \$1.5 million awarded annually by the Pew Fellows Program in Marine Conservation makes the fellowships the world's largest award for marine conservationists.

Cuker will utilize the resources of the reward to establish a unique program that will immerse minority students from North America in the marine world. A competitive sailor and advisor to the Hampton University sailing team - the first at a historically minority institution of higher education - Cuker will lead a group of minority students onto Chesapeake Bay aboard a sailing vessel specifically equipped to better introduce students to the aquatic sciences in a hands-on manner. The program will educate the students about the historic legacy of minorities in marine-related activities as well as introduce them to the current challenges faced by minority communities specifically, and the entire country in general, in relation to the degradation of the marine environment. Special emphasis will be placed on exposing the selected

participants to the entire range of potential impact points from the raw, hands-on science to public policy, community education and advocacy. Cuker hopes the program's success will ensure its long-term viability and ability to attract future funding from other interested organizations and educational institutions.

The proposed program is especially significant in light of the increasing relative percentage of minorities living on or near the coast and the ongoing policy debates addressing marine conservation issues. "Sometimes people don't even think of the impacts on minority populations because they have no affiliation or history with those groups. Many scientists may have grown up completely isolated from minority communities, so they have no understanding of how to interact with those communities," Cuker said. "Having more people of color involved in science and policy-making will help draw out their perspective. Diversity makes it better for everybody." Cuker has been a professor of marine sciences at Hampton University in Virginia (an historically minority serving institution) for the past 11 years, where he conducts aquatic research, coordinates the graduate program in Environmental Studies, and teaches ecology and marine biology. His research interests are in estuarine ecology, limnology of turbid systems, benthic ecology, and evolutionary ecology of aquatic communities.

The Pew Fellows Program in Marine Conservation is an initiative of The Pew Charitable Trusts in partnership with the New England Aquarium. The Pew Fellowships are highly competitive awards targeted primarily to mid-career professionals working in marine ecosystem conservation, fisheries management, marine contamination, and coastal conservation. Nominations for Pew Fellowships are made through an international network of environmental experts. Selection is based on the applied conservation merit of the proposal, the individual's professional achievement, and the potential impact of the project. Since the launch of the awards in 1990, Pew Fellows have been selected from throughout the United States and countries around the world including Argentina, Australia, Brazil, Canada, Chile, India, Jamaica, Kenya, Mexico, Palau, Poland, Russia, South Africa, Sweden, Tanzania, Turkey, the UK, and Vietnam.

The Pew Charitable Trusts are among the largest philanthropies in the United States supporting activities in the environment, culture, education, health and human services, public policy, and religion. Based in Philadelphia, Pennsylvania, the Trusts make strategic investments to encourage civic engagement in addressing critical issues and effecting social change.

For more information, see the Pew Fellows Program website, [www.pewmarine.org](http://www.pewmarine.org).

Register your Ph.D. dissertation at  
[www.aslo.org/dialog.html](http://www.aslo.org/dialog.html)

See pp. 11, 28 for information about the  
**DIALOG PROGRAM**

## EDUCATION

### SHARE YOUR EDUCATION ACTIVITIES AND IDEAS

*Ray P. Gerber Education Section Editor (rgerber@sjcme.edu)*

Now that summer is over and we are back to normal routines, how about setting aside a little time to share your education activities and ideas with other ASLO folks. Here is the place to do it. Send me an email with your article ideas...today!

### AQUATIC FOOD WEB INTERACTIONS: USE OF MICROCOSMS AS LAKE MODELS FOR TEACHING

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Increasing knowledge of trophic cascades in aquatic ecosystems has led to a better understanding of several basic ecological tenets, including competition, predation, and a variety of other community-level food web interactions. Major groups of aquatic organisms such as phytoplankton and zooplankton typically exhibit rapid reproductive rates (for example, many algae divide every 1-2 days), consequently the outcomes of these ecological interactions become apparent within a few days, in contrast to weeks, months or years for higher organisms in terrestrial ecosystems. Thus, we have developed a simple exercise using microcosms to demonstrate these ecological interactions for use in limnology, aquatic ecology, or general ecology courses. The following exercise can be conducted within 7-10 days, allowing further manipulations to be introduced or additional experiments to be conducted throughout a semester. For a larger scale version of a this experiment (which served as a basis for this exercise), see Lancaster and Drenner (1990).

This lab exercise incorporates student use of rigorous quantitative skills in enumeration, data collation, and statistical analysis, as well as the concepts of sound experimental design, replication and inference. Whole water plankton collections are added to standard 15-gal aquaria, allowed to equilibrate, then manipulated by adding planktivorous fish and/or phosphorus, with the appropriate controls. Algae, zooplankton, and bacteria (where feasible) are sampled periodically throughout the 1-2 week experiment, and/or on the final day of the study. Differences in species composition and biomass of the dominant taxa are then compared to determine the effects of fish, nutrients, and their combination on community structure. Indirect interactions are also evident using this approach. Thus, this exercise provides students with experience with standard techniques of data collection and analysis in limnology, concepts in community and population ecology, an introduction to a specific application of the scientific method, and insights into contemporary research approaches in aquatic ecology.

**Equipment and Supplies:** This exercise is relatively inexpensive to conduct because it makes use of local lake water, 10-gal aquaria, fathead minnows from the local bait shop, Sedgewick-Rafter and Palmer counting cells (the latter are now available in inexpensive, "disposable" form), com-

monly used limnological equipment (e.g., 35- $\mu$ m-mesh plankton net) and lab equipment (e.g., compound microscopes), and requires access to SAS, PC-SAS or equivalent statistical software for data analysis.

**General Procedures:** Lake water is transported to the lab in six 32-gal plastic trash cans filled from a nearby lake. Twelve microcosms are filled in 2.5-gal increments to ensure that the initial distribution of the water is uniform. Net plankton samples also collected at the lake are thoroughly mixed and added in equal volumes to each tanks to compensate for low zooplankton densities typically found in the littoral zones (as an alternative, add equal amounts of large zooplankton purchased from a supplier such as Carolina Biological Supply). Tanks are randomly assigned to each of the following treatment combinations (i.e. a 2 X 2 factorial design): (1) no phosphorus addition and no fish, (2) phosphorus addition and no fish, (3) no phosphorus addition with fish (two fathead minnows per tank), and (4) phosphorus addition with fish. Replicate each treatment combination three times, resulting in a total of 12 tanks. Strips of thick black plastic (ca. 20 cm wide) are taped to the bottom third of the four exterior tank sides to create a refuge for the zooplankton. Tanks are allowed to stand undisturbed for 7-10 days (this set-up can be conducted by the class during a prior lab).

The class is then divided into two groups, one each to sample and enumerate the zooplankton and the phytoplankton, as well as to analyze the data. Enumeration does not require taxonomic expertise, rather the subgroup confers early in the counting process to agree which names are to be assigned to which organisms (e.g., "blue-green unicells"). Organisms are quantified either with a Sedgewick-Rafter cell (zooplankton) or a Palmer cell (phytoplankton), focusing only on the dominant individuals. The results are analyzed in class (or as an outside assignment depending on the course level) using a completely randomized two-way ANOVA using SAS or equivalent software.

**Interpretation of the Output:** There are three probability values generated by the SAS analysis for each species which are used to assess the significance of phosphorus effects, fish effects, and interaction effects. Initially, there are two outcomes of immediate interest to this exercise. First, a significant phosphorus effect and/or fish effect (this may be positive or negative for each treatment) may be found. Secondly, the ANOVA may reveal a significant interaction effect, that is between the two treatments, phosphorus and fish. A significant interaction is evident not only from the p-value in the output, but also from a plot of density (of any dominant) versus phosphorus addition, with and without fish. In other words, the response of organism y to phosphorus or fish addition is influenced by a change in the other factor. The power of the factorial design of this experiment lies with its ability to reveal these kinds of interactions. In addition to these more obvious direct effects, a number of indirect effects should be evident, that is effects that demonstrate

trophic cascade. For example, the addition of phosphorus may have a significant positive effect on zooplankton as a result of an increase in edible algae, or fish addition may have a positive effect on phytoplankton density by eliminating the larger, more efficient zooplankton grazers.

**Student Response:** The overall response has been positive because students appreciate the opportunity to conduct the entire experiment themselves, including hands-on techniques for quantifying plankton and data analysis. They provided the following variations on the exercise (when prompted on the lab practical): (1) substitute the visual feeding planktivore with a pump filter feeder such as gizzard shad, (2) add complexity to the system by introducing aquatic macrophytes, (3) after 7-10 days, introduce a piscivore, and (4) substitute phosphorus addition with nitrogen or other potentially limiting nutrient.

For a detailed description of the laboratory exercise outlined above, see Hoagland and Holz (in press) or contact the authors directly. Comments and suggestions for improvements are welcome.

### References

- Hoagland, K.D. and J.C. Holz. (in press). Aquatic food web interactions: microcosms as lake models. *Proc. 21<sup>st</sup> Ann. Assoc. Biol. Lab. Educators*.  
Lancaster, H.F. and R.W. Drenner. 1990. Experimental mesocosm study of the separate and interaction effects of phosphorus and mosquitofish (*Gambusia affinis*) on plankton community structure. *Canadian Journal of Fisheries and Aquatic Sciences* 47:471-479.

### LEARNING TO TEACH

**Cristina D. Takacs**, Department of Environmental Biology, Portland State University, P.O. Box 751, Portland, OR 97207 (Tel: 503-725-5762; Fax: 503-725-8750; takacs@pyro.esr.pdx.edu)

Despite the alternative career paths aquatic scientists have available to them, many of us will chose to enter academia. However, a graduate student's teaching experience is often limited to laboratory teaching assistantships, and unlike elementary and secondary school teachers, we often receive little formal training in the art of instruction. It is assumed that by virtue of our ability to complete a graduate degree we are capable of teaching. This sink-or-swim approach to producing professors requires that undergraduates must suffer through the steepest part of our learning curve. Without any guidance, how does one learn to be an effective instructor? I always assumed that if one enjoys teaching, then ability would just follow. This notion results from a simplistic conclusion that I drew from my educational experience: the best professors were the one's that obviously loved to teach. There is nothing worse than sitting through a semester with a professor whom is unable to hide his resentment for teaching, but unfortunately, to find pleasure in the task does not ensure success.

I learned to teach the hard way. Fortunate to have been provided with ample funding, TAing has not been required of me. However, my major professor hoped to give me more experience speaking in public, and in my second year of graduate school, he arranged for me to teach a section of his introductory Biology class while he went out of town. I looked forward to the opportunity, however, despite extensive preparation, my performance was disappointing. I was

comfortable with the material and enjoyed the subject that I would be speaking about, but lecture time came and I succumbed to an unbearable fear that resulted in what I recall as the biggest bomb of my life.

I stayed away from teaching for a couple of years after that lecture. The experience made the act of giving a presentation of any sort into a cause of terror and shame for me. After much avoidance, I TAed a laboratory to gain teaching experience, and my advisor subsequently gave me the opportunity to "get back up on the horse...". I used my past failure and drew upon my experience as a student who has endured many a loathsome lecturer to succeed this time. I performed a mental survey of my favorite and worst lecturers and determined what was appealing or ineffective about their respective techniques. It was easy to state what was unappealing about the tiresome lecturers. They usually did not lecture, rather they spoke from notes and displayed endless outlines and lists of information that were disconnected from each other (exactly my strategy during my first attempt at lecturing). The appeal of my favorite professors was more subtle though. The clearest explanation that I could develop about their technique was that they related the material to us, rather than listing it. Additionally, I especially enjoyed professors that forced me to interact with the material during lecture by asking questions of the class, at times putting some of us on the spot in a Socratic way. My second attempt in the large lecture hall was far more successful than my first, and my greatest redemption was when several students approached me afterwards to tell me that they enjoyed the lecture.

I hope to enter academia after the completion of a post-doctoral research position. Although at least three years in the future, I have begun to look at the job listings to gain a better idea of what various departments are looking for and how I may better prepare myself for employment. One recurring request that many of the announcements include is one's "philosophy of teaching". Initially, this phrase alarmed me, it was a concept that had never occurred to me, despite the title of my impending degree. I approached my department head to ask him what is meant by this phrase and how one might develop a "philosophy of teaching". He presented me with an armload of books and reprints that were concerned with university level teaching techniques, alternative methods of instruction, and even a book for first year faculty. Much of the advice in these books is essentially intuitive, but their existence and the research that they represent gives me hope that my first year on a faculty will not be entirely "by the seat of my pants".

### Suggested Reading

- Bonwell, C.C. and J.A. Eison. 1991. Active Learning: Creating Excitement in the Classroom. ASHE-ERIC Higher Education Report No.1. Washington D.C. George Washington University, School of Education and Human Development.  
Ebert-May, D., C. Brewer, and S. Allred. 1997. Innovation in large lectures-teaching for active learning. *Bioscience* 47:601-607.  
Mazur, E. 1997. Peer Instruction: A User's Manual. Prentice Hall, New Jersey.  
McKeachie, W.J. 1994. Teaching Tips: Strategies, Research, and Theory for College and University Teachers. D.C. Heath and Company, Massachusetts. (*Excellent source for the beginning professor*)

## ASLO MEETINGS

### RESEARCH ACROSS BOUNDARIES: ASLO 2000 MEETING, COPENHAGEN 5-9 JUNE, 2000

**Bo Riemann**, ASLO 2000 co-chair, National Environmental Research Institute (DMU), P.O. Box 358, DK-4000 Roskilde, Denmark (Tel: (+45) 46 30 12 00; Fax: (+45) 46 30 11 14; [bri@dnu.dk](mailto:bri@dnu.dk)) and **Morten Sondergaard**, ASLO 2000 co-chair, Freshwater Biological Laboratory, University of Copenhagen, Helsingorsgade 51, Hillerod, DK-3400 (Tel: (+45) 48 26 76 00; Fax: (+45)-48-24-14-76; [flabms@inet.uni-c.dk](mailto:flabms@inet.uni-c.dk))

When you read this article you should also have the Meeting Announcement and Call for Abstracts on your desk. The below summary is only written to convince you that you should seriously consider to join the first ASLO meeting outside North America and in the new millenium.

The scientific program of the meeting is not very different from normal ASLO meetings, however a few newcomers are present.

**Plenary speakers:** The Local Organizing Committee (LOC) has together with the Program Committee invited five plenary speakers, one for each day as a starter. Their keynotes should bring us from rivers across lakes to estuaries and coastal waters, into the ocean and with an excursion to the sediment. The important boundary between experiments, empirical data and ecosystem theory will also be crossed.

- **Allan G. Hildrew**, Queen Mary and Westfield College, University of London, United Kingdom
- **Carlos M. Duarte**, Instituto Mediterráneo de Estudios Avanzados, CSIC-Univ., Palma de Mallorca, Spain
- **Mary I. Scranton**, State University of New York at Stony Brook, USA
- **Tom Fenchel**, Marine Biological Laboratory, University of Copenhagen, Denmark
- **Marten Scheffer**, Wageningen Agricultural University, The Netherlands

**Special Sessions:** LOC wants to thank the ASLO membership for the many suggestions for Special Sessions (SS). Most boundaries within our science will be crossed with the 40+ selected sessions. A NEW EXPERIENCE for the Special Sessions will be the "TUTORIALS". Each Convener of a Special Session is obliged to have the subject presented in a mini-review making it easier for the non-specialist to join the session and understand. We hope the tutorials can give perspective for the sessions and the discussions to follow, and re-vitalize oral sessions. The tutorials should also provide an opportunity for Ph.D. students to gain insight and learn about the most important results of a subject, find focus for future research and not forget about the past. The tutorials shall be allocated 30 minutes as opposed the normal 15 minutes for oral contributions.

**Contributed Sessions** are planned for those areas, which are not covered by the special sessions. If you do not find your own topic in our shortlist of contributed sessions do not hesitate to suggest a new title for a Contributed session.

**Poster presentations** are the most lively and sizzling periods of ASLO meetings. We have 1000 sq. meters at your

disposal for posters and exhibitions (and with an option to increase the area if necessary). Why not expose your work in a poster for about 2 days instead of 15 minutes in an oral presentation? Awards will be presented to students for outstanding posters. LOC has decided -with reference to the ASLO Board- that the best 10% will receive an award. We seek members of the Poster Selection Committee. Please volunteer and contact Bente Lomstein ([bente.lomstein@biology.aau.dk](mailto:bente.lomstein@biology.aau.dk)).

**Workshops** are vital elements of ASLO meetings. You can join such workshops both before, during, and after Copenhagen 2000. New and very interesting themes can be found in the suggested workshops. The boundaries between engineering and aquatic sciences are explored in the workshop on Large Constructions (bridges and dams etc.) and supplemented with a field trip to one of the new bridges in Denmark, either the Oeresund link between Sweden and Denmark or the Great Belt bridge (the second largest span-bridge in the world).

**Field trips** after the meeting can bring you to Germany, Jutland or the ultimate experience: limnology in West Greenland.

**Wednesday afternoon** is free for those who want. At 18.00 hours we gather at the pancake reception given by The Lord Mayor of Copenhagen. Afterwards you can cross the street and enter Tivoli.

**Registration and Abstract submission:** As usual Abstract submission can be done via the internet and with the same set-up as for the Santa Fe meeting. We hope it works at [www.aslo.org./copenhagen2000](http://www.aslo.org./copenhagen2000). Registration and payment can unfortunately only be done by fax or mail. According to Danish law a signature has to be present before we can make a draw on a credit card. However, this is not a big deal.

**Fees:** For early registration (before April 1, 2000) the fee for members are: 2300 DKr and 1300 for students (September 1st: 1 US\$ = 7.1 Dkr and 1 Euro = 7.4 Dkr).

**Hotels:** When you look at the hotel prices, please remember that breakfast, all taxes and service charges are always included. No surprises left.

### 2000/Denmark STUDENT POSTER AWARDS:

#### JUDGES NEEDED

If you haven't already served as an ASLO student poster award judge, you are missing a real treat! It's an educational experience that gives you a chance to learn about work on the cutting edge, within and outside your primary area of expertise. You will be asked to judge no more than 10 posters. Please contact Bente Lomstein ([bente.lomstein@biology.aau.edu](mailto:bente.lomstein@biology.aau.edu)).

**For students:** Your ASLO student representatives normally try to organize cheap group wise accommodation etc. Contact your student representative (studentreps@aslo.org) and put "roommate needed" on the subject line.

**Important deadlines**

- December 15, 1999: Awards for young scientists from developing countries (applications)
- January 15, 2000: Students travel awards (applications)
- January 15, 2000: Abstract submission
- February 20, 2000: Authors notified
- April 1, 2000: Early Registration
- June 5 - 9, 2000: Meeting

**Meeting venue:** The meeting is under one roof at the Bella Center. Each morning you take a 15 minutes bus ride from the center of Copenhagen, where most of "our" hotels are located. A buscard is provided for all who want one.

**More information** on Registration and Abstract submission and requirements is available in the printed Meeting

Announcement and Call for Papers and at [www.aslo.org/copenhagen2000](http://www.aslo.org/copenhagen2000). Here you also can read about the social events and optional sightseeing tours. Further information on practical matters will be provided by:

DIS Congress Service  
Herlev Ringvej 2C  
DK-2730 Herlev,  
Denmark  
Tel: (+45) 44924492  
Fax: (+45) 44925050  
E-mail: [aslo2000@discongress.com](mailto:aslo2000@discongress.com)

**The Local Organizing Committee is inviting you to take part in this event.** Join us in Copenhagen. **Morten Sondergaard** (co- chair), **Bo Riemann** (co-chair), **Kirsten Christoffersen**, **Tom Fenchel**, **Wilhelm Granéli**, **Bente Lomsteinand**, **Frede Thingstad**, and **Asit Mazumder** (ex-officio, ASLO Secretary and Meetings Committee Chair)

## JOBS

### Looking for a job?

Visit the ASLO JOBS website:  
[www.aslo.org/jobs.html](http://www.aslo.org/jobs.html)

### Have a job opening or student opportunity?

Submit job advertisements via the interactive form:  
[www.aslo.org/forms/jobform.html](http://www.aslo.org/forms/jobform.html)

## CALENDAR OF EVENTS

The Calendar section of the ASLO Bulletin has been replaced by the ASLO Web Page listings at

[www.aslo.org/calendar.html](http://www.aslo.org/calendar.html)

Announcements may be posted directly by using the online form section at

[www.aslo.org/](http://www.aslo.org/)



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# DIALOG IV

## Dissertations Initiative for the Advancement of Limnology and Oceanography

The DIALOG Program was founded to reduce the barriers that limit the exchange of information across the biologically oriented aquatic sciences. Through this program,

- Ph.D. dissertation abstracts are collected and disseminated and
- a symposium is held to foster inter-disciplinary understanding and collaborations among cohorts of recent graduates.

### SYMPOSIUM

A symposium will be held to catalyze cross-disciplinary and international understanding and collaborations. Participants will present a poster and a brief overview of their dissertation research, and form working groups to discuss emerging aquatic science research, education, and policy issues. Funding-agency representatives will present perspectives on interdisciplinary and international aquatic science research programs. The symposium is open to individuals who complete their Ph.D. requirements between **April 1, 1999** and **December 31, 2000** and whose work in biological, chemical, geological, or physical science is relevant to biologically oriented limnology or oceanography. Individuals

from all nations are eligible for consideration. Support for travel and on-site expenses is provided by the agencies which fund the program. A committee will select up to 40 participants based on the application materials submitted. Selection will favor those who wish to pursue interdisciplinary aquatic science research.

### DISSERTATION COMPILATION

All aquatic scientists completing Ph.D. requirements after January 1, 1997 are encouraged to "register" their dissertations through the DIALOG Program. Dissertation citations and abstracts are posted at

[www.aslo.org/dialog.html](http://www.aslo.org/dialog.html)

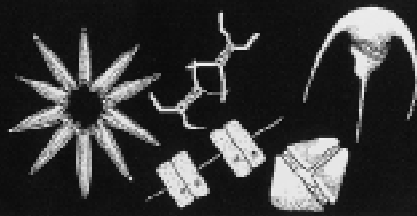
### HOW TO PARTICIPATE

- View abstracts
- Submit abstracts
- find symposium application instructions at

[www.aslo.org/dialog.html](http://www.aslo.org/dialog.html)

### Questions

C. Susan Weiler  
Whitman College  
Walla Walla, WA 99362 USA  
Tel: 509-527-5948  
[aslo.dialog@whitman.edu](mailto:aslo.dialog@whitman.edu)



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