The Earth's Eyes: Aquatic Sciences Through Space and Time

Historical studies in aquatic sciences
Paleo studies in aquatic sciences
Spatial patterns in aquatic systems
Extreme environments on earth and beyond

Important!
You must bring this program with you to the meeting! It contains the schedule of sessions and presentations. Even if you are already registered for the meeting or if you plan to register using the forms included in this booklet, you must bring this program book with you to the meeting! Additional copies cannot be provided on-site unless you pay a $15 replacement fee.

Early Registration Deadline: January 9, 2003
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Welcome to the ASLO 2003 Aquatic Sciences Meeting in breathtaking Salt Lake City, Utah, the site of the 2002 Winter Olympic Games!

The ASLO 2003 organizing committee encourages you to join us in an exhilarating mountain atmosphere and invites your participation in a meeting that will provide an opportunity to use our eyes to look into the past, to examine where we are today and to look forward into the future. Sessions during this meeting carry out themes along axes of time, including paleo, historical and modern studies, and space, from landscape, seascape or extraterrestrial perspectives.

Make your plans to arrive early! This year’s meeting will begin on Sunday afternoon with an opening keynote address. This session will be immediately followed by our opening welcome reception. Plan to arrive in time to register and hear this exciting talk before you attend the reception. One of four planned plenary lectures will be held Monday through Thursday mornings and will be followed by a coffee break. Poster sessions and receptions are scheduled to provide a second opportunity to make professional connections in a social setting. Daily conference events will be held at the Salt Palace Convention Center.

The Theme of ASLO 2003

To paraphrase Thoreau, aquatic ecosystems are the landscape’s most beautiful and expressive feature(s). They are the Earth’s eyes; looking into which the beholder measures the depth of his own nature.* ("The Ponds," Walden). This observation is extremely pertinent today, given the multitude of changes occurring on our planet and the significance of aquatic systems to those changes. Integrative historical and paleo studies help us better understand how the Earth system functions. Perhaps Winston Churchill put it best: “The farther backward you can look, the farther forward you are likely to see.”

Conference Sub-themes

Special sessions for the ASLO 2003 Aquatic Sciences Meeting will be organized around the four sub-themes that follow. Special sessions are numbered according to their corresponding sub-theme, thus talks in all sessions that begin with SS1... represent Sub-theme 1, SS2... represent Sub-theme 2, SS3... represent Sub-theme 3, and SS4... represent Sub-theme 4. Poster sessions also are organized by theme. Posters that fall under Sub-theme 1 and Sub-theme 2 will be presented on Tuesday. Sub-theme 3 posters will be presented on Wednesday, and Sub-theme 4 posters will be presented on Thursday.

Sub-theme 1: Historical Studies in Aquatic Sciences

Human activities have altered the Earth's hydrosphere, biosphere and atmosphere. Documenting the impacts on, and the response(s) of, aquatic ecosystems to anthropogenic forcing is necessary both to understand past and present dynamics and to sustain aquatic environments and the resources they provide in the future. This sub-theme aims to cover a broad range of historical studies in aquatic sciences, including water quality and nutrient regimes, primary and secondary production, fisheries, harmful algal blooms, biodiversity, freshwater flow (surface and groundwater), dams and impoundments, watershed alteration and development, aquaculture, and invasive species.

Sub-theme 2: Paleo Studies in Aquatic Sciences

The study of aquatic ecosystems over geologic time scales provides insight to the vital interactions that drive global-scale patterns of climate and biotic evolution at micro and macro scales. This sub-theme will encompass paleo studies in the context of the evolution of biogeochemical cycles and aquatic biota, glacial-interglacial cycles, ocean-atmosphere dynamics, mass extinctions, and global change.

Sub-theme 3: Spatial Patterns in Aquatic Systems

Complex spatial patterns in aquatic systems occur at local, regional and global scales. These patterns result from dynamic interplays between biotic and abiotic forcing factors at small (sediment-water interface, connections between littoral and pelagic processes) to very large, global processes, such as ENSO events. Sessions in this sub-theme may include: watershed and regional oceanic responses to climate or anthropogenic forcing, emergent properties of aquatic ecosystems, biocomplexity, application of a regional landscape perspective to lake districts, or comparative studies of coastal ocean responses to perturbations.

Sub-theme 4: Extreme Environments On Earth and Beyond

The organisms that thrive in the conditions present in extreme environments may hold the key(s) to understanding life on early Earth, and elsewhere, as well as evolution of biogeochemical pathways. Sessions related to this sub-theme will examine distribution, physiology and diversity of organisms that thrive under harsh environmental conditions. Topics/habitats to be covered under this sub-theme include, but are not limited to: phylgenetic and functional diversity, extremophiles and extremozymes, symbiosis and syntrophy, deep sea hydrothermal vents and cold seeps, hot springs, polar environments, saline lakes, deep ocean environments, and systems beyond the Earth.

Opening Address

Speaker: David J. Des Marais, Research Scientist, Space Science and Astrobiology, Ames Research Center, NASA

Date: Sunday, February 9, 2003

Time: 5:30 to 6:30 p.m.

Location: Salt Palace Convention Center – Grand Ballroom AB and North Foyer

A new addition to the program for 2003 is the opening keynote address on Sunday by Dave Des Marais of the Space Science and Astrobiology Branch of NASA’s Ames Research Center. His talk will be entitled, “Astrobiology Extends Biology into Deep Time and Space.”

Description: To understand our own origins and to search for biospheres beyond Earth, we need a more robust concept of life itself. We must learn how to discriminate between attributes that are fundamental to all living systems versus those that represent principally local outcomes of long-term survival on Earth. We should identify the most basic environmental needs of life, chart the distribution of other habitable worlds, and understand the factors that created their distribution. Studies of microbial communities and the geologic record will be summarized to offer clues about the early evolution of our own biosphere as well as the signatures of life that we might find in the heavens.
Biography: David Des Marais received a Ph.D. in geochemistry from Indiana University in 1974 and then was a postdoctoral research fellow at the Institute of Geophysics at U.C.L.A. Since 1976, he has been a research scientist in space science and astrobiology at Ames Research Center, NASA, Moffett Field, California. His long-term research interests have been the biogeochemical carbon cycle and the early evolution of Earth and its biosphere. Des Marais’ areas of specialization have included the stable isotope geochemistry of carbon in lunar samples, meteorites and oceanic basalts, the biogeochemistry of microbial communities in hypersaline environments, and the biogeochemistry of ancient (Precambrian) carbonates and organic matter. He has conducted geologic fieldwork in the U.S., Australia, Canada, and South Africa; and biological field studies in the U.S. and Mexico. Des Marais has authored or co-authored more than 120 peer-reviewed articles and book chapters. He is currently a member of the editorial boards of the two journals Astrobiology and Geobiology; and he has served on several NASA and NSF peer review panels, as well as NASA science definition teams and science working groups. He is the principal investigator of the Ames Research Center team of the NASA Astrobiology Institute. Des Marais serves as interdisciplinary scientist for astrobiology on both the Mars Exploration Rover 2003 science operations working group and the Mars 2005 CRISM infrared spectrometer.

ASLO 2003 Plenary Speakers
Each plenary speaker will address one of the sub-themes and will open the meeting for that day. Each daily general session will be followed by a coffee break to encourage conversations and networking among scientists.

Sub-theme 1: Historical Studies in Aquatic Sciences
Speaker: Sheri Fritz, Professor, Department of Geosciences and School of Biological Sciences, University of Nebraska, Lincoln, Nebraska
Date: Monday, February 10, 2003
Time: 9:30 – 10:15 a.m.
Location: Salt Palace Convention Center – Grand Ballroom AB and North Foyer
Presentation: Dr. Fritz’s plenary presentation “Lakes Across Gradients of Space and Time” will discuss the perspectives that studying lacustrine stratigraphic records provide regarding the nature of long-term environmental change at time scales from decades to millennia and from tropical latitudes to the Arctic.
Biography: Sheri Fritz is a limnologist whose interests center on the interaction of lakes with the atmosphere and the land surface, both in contemporary times and during the Quaternary. She has worked in a variety of environments – from the American tropics to the mid-latitudes of North America and Europe to the Arctic; and from ultraoligotrophic to hypereutrophic lakes and dilute freshwater to hypersaline systems. The majority of her research emphasizes climatic impacts on lake ecosystems and the lacustrine record of paleoclimate, including current projects in the North American continental interior, the Altiplano of Bolivia and Peru, and adjacent to the Greenland Ice Sheet. Her research combines studies of lacustrine stratigraphic records with descriptive and experimental studies of modern lakes as models for interpretation of fossil sequences, and she has been at the forefront of developing diatoms as a tool for the reconstruction of past climate. She received her B.A. from Macalester College, her M.S. from Kent State, and her Ph.D. from the University of Minnesota. Dr. Fritz is currently a professor in the Department of Geosciences and School of Biological Sciences at the University of Nebraska in Lincoln, Nebraska.

Sub-theme 2: Paleo Studies in Aquatic Sciences
Speaker: Donald E. Canfield, Institute of Biology, Odense University, Odense, Denmark
Date: Tuesday, February 11, 2003
Time: 8:30 – 9:15 a.m.
Location: Salt Palace Convention Center – Grand Ballroom AB and North Foyer
Presentation: Dr. Canfield’s talk will be about “The Evolution of the Sulfur Cycle.” Organisms metabolizing sulfur compounds were probably among the first to emerge in the early history of life on Earth. These organisms and their descendants have left isotopic and chemical traces allowing us to explore for their activity. As their activity is heavily influenced by environmental parameters, like sulfate concentration at oxygen availability, we can also gain a window into the evolution of Earth surface chemistry over time. Dr. Canfield’s presentation will explore the early evolution of sulfur-metabolizing organisms and will also describe how we reconstruct Earth surface chemistry. It also will discuss the influence of surface chemistry on organismal activity.
Biography: Don Canfield is a professor of ecology at the Institute of Biology at Odense University, Odense, Denmark. Prior to his position at Odense, he was a BAT 1b scientist at the Max Plank Institute for Marine Microbiology in Bremen, Germany. He has also held positions at the Georgia Institute of Technology in Atlanta, Georgia, the University of Århus in Denmark, and at NASA-Ames Research Center located in Moffett Field, California. Canfield’s funded research projects include Ancient Sulfur Biogeochemistry (1992 to 1996 – NASA), Biological and Chemical Dynamics of the Oxic/Anoxic Interface (1997 to 1999 – Danish National Science Foundation), and Earth System Science Center (1998 to 2002 – Danmarks Grundforskningsfond).
He received a B.S. in chemistry from Miami University, and two degrees in geochemistry, an M.Phil. and a Ph.D., from Yale University. His supervisor at Yale was Bob Berner. Canfield’s honors and awards include the W.E. Ford Prize for Excellence in Mineralogy from Yale University, the Orville Prize for outstanding research in earth science from Yale University, the NRC Postdoctoral Fellowship from NASA-Ames Research Center, Honorary Research Fellow from the University of Leeds, and he was made a member of the Royal Danish Academy of Sciences and Letters in 2002.
Canfield is the editor of Geobiology, an associate editor for the American Journal of Science and Limnology and Oceanography, and an editorial advisor for Aquatic Microbial Ecology.

Sub-theme 3: Spatial Patterns in Aquatic Systems
Speaker: Jim Elser, Professor and Director of Undergraduate Programs, Department of Biology, Arizona State University
Date: Wednesday, February 12, 2003
Time: 8:30 – 9:15 a.m.
Location: Salt Palace Convention Center – Grand Ballroom AB and North Foyer
Presentation: Dr. Elser will address, “Constraining complexity: biological stoichiometry here and now, its prospects for there and then.” Ecological stoichiometry is the study of the balance of energy and multiple chemical elements in ecological interactions. While stoichiometric thinking can be identified in many sources, this approach has its primary roots in the water, especially in the classic ideas of A.C. Redfield and in its more recent manifestations in freshwater food web ecology. In this talk, Dr. Elser will describe new developments that show how stoichiometric theory can help in understanding diverse aspects of biological complexity across space and time. These include life-history evolution, aquatic-terrestrial contrasts, chaotic population dynamics, species coexistence, allometric scaling patterns, global change, and astrobiology. The wide-ranging impact of stoichiometric theory suggests that this approach can contribute to the development of a better integrated, consilient and coherent, framework - biological stoichiometry - for the analysis of biological complexity in its many forms: from the genome to the biosphere, from microbes to metazoans, and from the here and now into the distant there and then.

Biography: Jim Elser is professor and director of undergraduate programs in the Department of Biology at Arizona State University. He received a B.S. degree in biology from the University of Notre Dame, an M.S. degree in ecology from the University of Tennessee; and a Ph.D. in ecology from the University of California-Davis. Building on early work that won ASLO’s Lindeman Award in 1990, Elser’s research primarily involves the study of the interactions among nutrient supply and trophic interactions in aquatic food webs. Working with various colleagues, Elser has contributed to the development of the theory of ecological stoichiometry, the study of the balance of energy and multiple chemical elements in ecological interactions. This is the topic of a recent book co-authored with Robert Sterner (Ecological Stoichiometry: The Biology of Elements from Molecules to the Biosphere; Princeton Press). More recently, Elser’s research has begun to extend stoichiometric theory to the study of terrestrial food webs and to better understand the interactions between evolutionary processes and ecosystem dynamics.

Sub-theme 4: Extreme Environments On Earth and Beyond

Speaker: Colleen Cavanaugh, Department of Molecular and Cellular Biology, Harvard University

Date: Thursday, February 13, 2003

Time: 8:30 – 9:15 a.m.

Location: Salt Palace Convention Center – Grand Ballroom AB and North Foyer

About Salt Lake City

A beautiful, safe, and vibrant city, Salt Lake combines unparalleled access to natural recreation, a bustling economy, dynamic nightlife, remarkable history, warm hospitality, and some of the greatest snow skiing on earth! Hosting the Olympic Winter Games of 2002 forever changed the community’s cultural landscape and burgeoning skyline. In anticipation of the Olympics, several major attractions opened along with a brand new transportation infrastructure and abundant rooms in spectacular new and renovated hotels. Recent restaurant development makes Salt Lake the culinary capital of the Rockies, while a revamped Utah’s liquor laws makes ordering a drink as easy as ordering a meal.

Salt Lake lies in a mountain valley with the Wasatch Mountains to the east and north. The Oquirrh (pronounced “oakrrr”) Mountains border the western edge of the valley. Salt Lake’s official elevation is 4,330 feet/1,320 meters above sea level. The city is situated on land once covered by the prehistoric Lake Bonneville. This ancient lake existed within portions of Utah, Nevada, and Idaho, with an elevation rising from 4,200 feet to 5,200 feet (1,280 meters to 1,585 meters) at some points. The eastern and northern portions of the city are located on a series of terraces, or former beaches, which are known locally as “the benches.”

Attendees of the ASLO 2003 Aquatic Sciences Meeting can see why skiers come from around the world to ski world-class resorts and The Greatest Snow on Earth! An average 535 inches of light, dry powder snow falls on the Wasatch Range just 35 minutes from downtown. By contrast, the valley receives approximately 59 inches of snow during the season and the above-freezing temperatures keep roads free from ice and snow build-up. Average daytime highs are around 40 degrees (Fahrenheit), and average evening lows are about 22 degrees (Fahrenheit).

Please plan on bringing layered clothing and a warm jacket to be most comfortable during this cooler season. Casual jeans are acceptable in most area restaurants while more formal attire is appropriate, but not required, for cultural performances, fine restaurants, and some nightclubs.

Salt Lake still has unmatched access to the natural wonders of the western United States. Historic Temple Square and the Mormon Tabernacle Choir remain Salt Lake’s number one tourist attraction. For more information on things to do and see in Salt Lake City, including attractions, skiing, sports and recreation, dining and nightlife, please visit the Salt Lake Convention and Visitors Bureau web site at www.visitsaltlake.com.
Conference Committee

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Lynda Shapiro, Treasurer
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William Lewis, Past-President
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Dartmouth College
Samantha Joye, Member-at-Large
University of Georgia
John Magnuson, Member-at-Large
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**Future ASLO Meetings**

ASLO 2004 Summer Meeting
June 13-18, 2004
Savannah, Georgia

Ocean Research Conference
(Jointly sponsored by ASLO and The Oceanography Society)
February 15-20, 2004
Honolulu, Hawaii

**Presentation Archive**

Abstracts of papers presented during the ASLO 2003 Aquatic Sciences Meeting will be published in the conference abstract book as well as archived on the ASLO web site following the meeting.

**For More Information**

For more information on the ASLO 2003 Aquatic Sciences Meeting, please contact:

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Fax: 254-776-3767
E-mail: business@aslo.org

**Commercial and Nonprofit Exhibits**

An exhibit area will be set up at the Salt Palace Convention Center in Grand Ballroom E-J. Exhibits will be open to attendees on Tuesday, Wednesday, and Thursday, February 11, 12, and 13, 2003, from 8:00 a.m. to 7:30 p.m.

Exhibitors confirmed to date include:

- Academia Book Exhibits
  Bruce Davis
  3512 Willow Green Court
  Oakton, VA 22124
  703-716-5537 Voice, 703-620-3676 Fax
  www.acadbkex.com

- ACR Systems Inc.
  Michael P. Kilpatrick
  Bldg. 210, 12960 84th Ave.
  Surrey, BC V3W 1K7 Canada
  800-663-7845 Voice, 604-591-2252 Fax
  www.acrsystems.com

- Estuarine Research Federation
  Joy Bartholomew
  P.O. Box 510
  Port Republic, MD 20678
  410-586-0997 Voice, 410-586-9226 Fax
  www.erf.org

- Fluid Imaging Technologies, Inc.
  Wayne Thibaudelau
  258 Cross Point Rd.
  Edgecomb, ME 04566
  207-882-1100 Voice, 207-882-4800 Fax
  www.fluidimaging.com

- In-Situ, Inc.
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  307-742-8213 Voice, 307-721-7598 Fax
  www.in-situ.com

- Island Press
  Krista Fisher
  1718 Connecticut Ave. N.W., Suite 300
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  202-232-7933 Voice, 202-234-1328 Fax
  www.islandpress.org

- Kluwer Academic Publishers
  Marcia Kidston
  101 Philip Drive
  Norwell, MA 02061
  781-871-6600 Voice, 781-871-6528 Fax
  www.wkap.nl

- Springer-Verlag New York, Inc.
  Acasia Dalmau
  175 Fifth Ave.
  New York, NY 10010-7858
  800-777-4643 Voice, 201-348-4505 Fax
  www.springer-ny.com

- Unisense
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  45-86205179 Voice, 45-86205298 Fax
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- YSI, Inc.
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  937-767-7241, Ext. 369 Voice, 937-767-1058 Fax
  www.ysi.com

Exhibitors are invited to participate in the various social activities associated with the meeting by paying the additional spouse/guest fee of $100.00 USD.

The cost to exhibit for a commercial (for-profit) company is $1150.00 USD; non-profit organizations can exhibit for $750.00 USD. Several opportunities also are available for sponsorship of various breaks, receptions and other functions throughout the meeting. Please contact the Exhibits/Sponsorship Coordinator at the ASLO Business Office, (800) 929-ASLO or (254) 399-9635 if you would like more information.
**ASLO Minorities Program**

The 14th annual ASLO Minorities Program will be held in conjunction with the Salt Lake City Meetings. The initiative is a joint undertaking between Hampton University and ASLO and is funded by the Ocean Sciences Division of the National Science Foundation. Minority students will attend a pre-conference workshop, field trip, and give presentations in a student symposium. Dr. Barry Costa-Pierce, Director of Rhode Island Sea Grant, will give the keynote address entitled, “Ecological Aquaculture and Personal Reflections” at the pre-conference workshop at 7:00 p.m. on Saturday, February 8, 2003, at the Sheraton Hotel. Dr. Costa-Pierce is known as one of the world’s leading authorities on “green” aquaculture and has recently published a critically acclaimed book on the topic. The Sunday field trip will include with sampling of the Great Salt Lake. All ASLO participants are invited to the student symposium that will be held on Tuesday, February 11, during the regular sessions, in the Room 151 – ABC of the Salt Palace Convention Center. The students will be aided in navigating their way through the conference by ASLO members who have volunteered to be meeting mentors. Anyone wishing to serve as a meeting mentor for a few of the students should contact: Dr. Ben Cuker, Marine Science, Hampton University, Hampton, VA 23668, phone (757) 727-5884, benjamin.cuker@hamptonu.edu.

**DIALOG Reception**

for Recent Ph.D. Recipients and Near-Grads

Date: Tuesday, February 11, 2003

Time: 7:00 - 8:30 p.m.

Location: Best Western Salt Lake Plaza Hotel – Salt Lake Room

(122 W. South Temple, Salt Lake City)

DIALOG, the Dissertations Initiative for the Advancement of Limnology and Oceanography, will hold a reception for past program participants and students and recent Ph.Ds who are interested in joining this program. DIALOG consists of an online Ph.D. Dissertation Registry, a listserv to distribute information of interest to recent grads, and a biennial symposium to establish peer networks. The overall goal is to foster international, interdisciplinary understanding and peer networking.

This reception provides an opportunity for senior graduate students and recent Ph.Ds to meet with their counterparts from around the world in a relaxed atmosphere, to learn about the DIALOG program and establish or renew collegial relationships with their peers. There will be light refreshments and a cash bar.

Information about the program also will be available at the meeting. Or, check out the website at http://aslo.org/phd.html.

**Career Link Program**

Prospective employers and supervisors are invited to post announcements free of charge at the ASLO Student Booth. Students are invited to post resumes for viewing by employers and supervisors during the meeting. Electronic versions of ads and resumes will be distributed free of charge after the meeting. To learn more about the Career Link Program, please go to the following ASLO website: www.aslo.org (Click on Student Information, then select Career Link Program).

**Opportunities and Information for Students**

**ASLO Student Meeting**

Date: Monday, February 10, 2003

Time: 6:30 – 8:00 p.m. (Immediately following the ASLO Business Meeting)

Location: Salt Palace Convention Center – Room 151 G

**Student Meeting Agenda:**

- Peter Jumars, ASLO President: “The Take and Give of Society Membership”
- Everett Fee, L&O Editor-in-Chief: “Getting Published: The Inside Scoop”

Student Representatives Cynthia Kicklighter and Colin Stedmon will be on hand to answer questions about serving on the ASLO Board.

**Outstanding Student Poster Awards**

ASLO will present several awards for the most outstanding posters presented by student members. Posters in all areas of aquatic science are appropriate, including theory, modeling, and laboratory or field experimentation. To be eligible, the student must be an ASLO member and first author on research that has not been presented previously at ASLO or other scientific meetings. Presentations will be judged on the basis of innovation/scientific insight, quality of experimental design/methods, and clarity/effectiveness of presentation. All posters submitted by students will be considered for the student poster awards. There is no need to apply.

Student posters will be judged immediately following the conclusion of the poster set-up time on Monday afternoon, February 10, 2003. Therefore, posters that are not in place by this time will not be eligible for awards and will not be judged.

**Volunteers Needed for Poster Judging**

Post docs and professionals who are members of ASLO are invited to serve as poster judges. Each judge will be responsible for evaluating 10 posters. Please indicate your area of expertise and interest in serving as a volunteer by sending an e-mail to Cynthia Kicklighter at gt7853@prism.gatech.edu.

**Roommates Wanted**

Roommates Wanted is a free on-line service to those who are seeking roommates during ASLO’s meetings. To participate, visit ASLO’s website at www.aslo.org, click on Student Information, then select Roommates Wanted.

**Conference Events**

**Registration**

Dates: Sunday, February 9, 2003 - 1:00 - 9:00 p.m.

Monday, February 10, 2003, through Thursday, February 13, 2003 - 7:00 a.m. - 5:00 p.m.

Friday, February 14, 2003 - 7:00 a.m. to 12:00 p.m.

Location: Salt Palace Convention Center - East Registration Area

Conference attendees are encouraged to register on Sunday afternoon so that they will have their program and materials prior to
the opening of the conference on Sunday evening and before the
general session on Monday morning.

Opening Address
Speaker: David J. Des Marais, Research Scientist, Space
Science and Astrobiology, Ames Research Center,
NASA
Date: Sunday, February 9, 2003
Time: 5:30 to 6:30 p.m.
Location: Salt Palace Convention Center – Grand Ballroom AB
and North Foyer

A new addition to the program for 2003 is the opening keynote
address by Dave Des Marais from NASA’s Ames Research Center.
His talk will be immediately prior to the opening welcome mixer
reception. Plan to arrive in time to register and hear his exciting talk
before you attend the reception.

Opening Welcome Mixer Reception
Date: Sunday, February 9, 2003
Time: 6:30 to 9:00 p.m.
Location: Salt Palace Convention Center - South Ballroom Foyer

Following the opening keynote address, attendees are invited to an
opening welcome reception at the convention center. The confer-
ence registration area will be open during this time as well so that
you can check-in for the meeting and receive your registration
materials.

Awards Presentation
Date: Monday, February 10, 2003
Time: 8:30 to 9:30 a.m.
Location: Salt Palace Convention Center – Grand Ballroom AB
and North Foyer

Attendees of the ASLO 2003 Aquatic Sciences Meeting will attend
a general session on Monday morning. During this first session of
the meeting, prior to the first plenary talk, society award recipients
will be recognized and honored.

Plenary Addresses
Dates: Monday, February 10, through
Thursdays, February 13, 2003
Location: Salt Palace Convention Center – Grand Ballroom AB
and North Foyer

Plenary lectures are planned each morning, Monday through
Thursday. Coffee breaks will follow these presentations to allow
attendees time to discuss the points of the address further.

Annual Business Meeting
Date: Monday, February 10, 2003
Time: 5:30 to 6:30 p.m.
Location: Salt Palace Convention Center – Room 151 G

ASLO’s annual business meeting is scheduled for Monday evening
at the Salt Palace Convention Center. All ASLO members and
meeting participants are encouraged to attend.

Poster Sessions and Receptions
Dates: Tuesday, February 11, through
Thursday, February 13, 2003
Time: 5:30 to 7:30 p.m.
Location: Salt Palace Convention Center - Grand Ballroom E-J

Poster sessions and receptions will take place in the Salt Palace
Convention Center on Tuesday, Wednesday, and Thursday
evenings. Poster sessions are an important part of the 2003
Aquatic Sciences Meeting and provide invaluable contributions to
the theme. Posters will be on display and presented during the
reception each evening from 5:30 to 7:30 p.m. Exhibits will be
open during this time.

Wednesday Evening Reception at Snowbird (Optional)
Date: Wednesday, February 12, 2003
Time: Participants will board the busses at Salt Palace
Convention Center at 7:00 p.m. and are scheduled to
return to the Salt Palace Convention Center at 10:30
p.m.
Departure: Salt Palace Convention Center – South side of building
between West Temple and 200 West St.
Cost: $45.00 per person (includes transportation, admittance
to the lodge, and hors d’oeuvres. Cocktails and
beverages will be available on a cash basis.)

This special evening will begin with a pretty 30-minute drive to the
Snowbird Ski Resort at night. Participants will be taken to the Gold
Cliff Room at the Cliff Lodge located in the Wasatch National Forest
at an altitude of 8,000 feet. Participants will experience a truly alpine
setting with mountain scenes, tall pine and aspen trees. Original
works of art and furnishings from around the world complement the
natural surroundings to create a magically breathtaking atmosphere.
The Cliff Lodge is known for its extensive collection of Persian rugs.

Tickets to attend this special reception must be purchased in
advance of the meeting and will not be available for purchase on
site. The number of reception tickets is very limited.

If you have already registered for the meeting and would like to
purchase a ticket to the Snowbird reception and/or sign up for any
of the field trips that are listed elsewhere in this program, please
complete the form in this program or download the form at
fax it back to the ASLO Business Office at (254) 776-3767 with
payment information. Reservations cannot be accepted via e-mail
or phone, nor can they be accepted without payment in advance.

Workshops
Workshops scheduled in conjunction with the ASLO 2003 Aquatic
Sciences Meeting will take place at the Salt Palace Convention
Center. All of the workshops are free. Following is a list of the
workshops scheduled to date, and we encourage you to continue
to check the website for any additional information on the work-
shops.

Stable Isotopes Workshop
Date: Sunday, February 9, 2003
Time: 1:00 to 2:00 p.m.
Location: Salt Palace Convention Center – Room 150 G

This one-hour seminar reviews the current uses of stable isotopes
and stable mass spectrometry (IRMS) in aquatic sciences. It
will review the fundamental principles of stable isotopes and the
status of our ability to isotopically characterize all major and minor
phases and components involved in natural cycles. Current
instrumentation will be reviewed, with an emphasis on the principles
of continuous flow techniques. Comprehensive bibliographies on
selected instrumental topics will be distributed. The lecture is open to everyone and will be given by Chuck Douthitt, a technical representative from ThermoFinnigan. He will be available afterwards to analyze specific technical questions. The workshop is free.

ICPMS Workshop
Date: Sunday, February 9, 2003
Time: 2:30 to 3:30 p.m.
Location: Salt Palace Convention Center – Room 150 G

This one-hour seminar reviews the current uses of ICPMS in aquatic sciences, covering elemental analysis, elemental ratios, isotope ratios, speciation and laser ablation. It will review making these measurements in aqueous samples and in solid phases. Current instrumentation including magnetic sector ICPMS, quadrupole (± collision cells), and time of flight ICPMS will be reviewed. Comprehensive bibliographies on select instrumental topics will be distributed. The lecture is open to everyone and will be given by Chuck Douthitt, a technical representative from ThermoFinnigan. He will be available afterwards to analyze specific technical questions. The workshop is free.

Public Policy Workshop
Date: Tuesday, February 11, 2003
Time: 12:15 to 2:15 p.m.
Location: Salt Palace Convention Center – Room 150 DEF

Have you ever wondered how environmental policies and regulations are formed? Do you want to be more involved in policy, but aren’t sure where to start? Not sure if you should be communicating with Congress or a federal agency? ASLO Public Policy Representative Adrienne Froelich will address these issues and offer a hands-on policy experience for conference attendees interested in public policy.

The workshop will begin with a short presentation on the relationship between science, management and policy. Using examples from her experience working on Capitol Hill, Adrienne will provide tips on how individual researchers can get involved in public policy. Workshop participants will then have the opportunity to put those tips into practice during the second half of the workshop. Participants will work in small groups to draft a letter to government officials in response to a hypothetical policy situation and will formulate a strategy for distributing their letter. Pre-registration for this workshop is necessary so please contact Adrienne if you would like to participate by calling (202) 628-1500, Ext. 232, or by e-mail at afroelich@aslo.org.

Workshop on NSF Funding Opportunities for Freshwater Research
Date: Tuesday, February 11, 2003
Time: 12:30 to 1:30 p.m.
Location: Salt Palace Convention Center – Room 250 DE

Bring your lunch and join NSF program officer(s) for an informal discussion of funding opportunities in freshwater research in the Biological Sciences and Geosciences Directorates. New programs and Foundation-wide funding initiatives can also be discussed, along with general tips for writing successful research proposals.

Popular Science Communication Workshop
Date: Wednesday, February 12, 2003
Time: 12:15 to 2:15 p.m.
Location: Salt Palace Convention Center – Room 250 C

Participants in this workshop will learn how to present science in an interesting way while retaining factual accuracy, the key to good science communication with a popular (general public) audience. Popular science communication aims to change scientific concepts and results from jargon-based language often understandable only to scientists, to news relevant to the lives of a general audience.

This workshop will explore science communication, specifically science writing, in language understandable to non-scientists. Participants will review examples of good science writing from newspapers like the New York Times and Washington Post and magazines like New Scientist and Science News; "dissect" the structure of science news and feature articles; discuss how popular coverage of science has changed over time; and learn the basics of this craft. They will have an opportunity to try their hands at writing a popular article about research being presented at the conference, and individual critiques will be provided to interested participants.

The workshop is free, and pre-registration is appreciated so that the workshop presenters will be able to plan accordingly. If you plan to attend, please contact Cheryl Dybas, National Science Foundation by e-mail at cdybas@nsf.gov or by phone at 703-292-8070.

Other Open Meetings
Town Meeting on Emerging Research Issues for Limnology: An Opportunity For Community Input Related To NSF’s Environmental Plans
Date: Tuesday, February 11, 2003
Time: 9:30 a.m. to 12:00 p.m.
Location: Salt Palace Convention Center – Room 250 AB

The National Science Foundation is seeking input from the scientific community on important basic research questions that need to be addressed in the coming decade, particularly with regard to better integrating physical, geological, and chemical limnology with ongoing programs. In December, ASLO convened a workshop of hydrologists, chemists, geologists, and ecologists to discuss emerging research issues in the field of freshwater science. A special session will be held on Tuesday morning to report the results of this workshop and to seek additional input from those attending the Salt Lake meeting. Participants can provide additional suggestions on critical research questions concerning inland waters and participate in a discussion of how ASLO can promote research and education efforts in limnology.

Education and Human Resources Committee
Date: Tuesday, February 11, 2003
Time: 7:00 to 8:30 p.m.
Location: Salt Palace Convention Center – Room 150 C

The ASLO Education and Human Resources Committee will meet to discuss: (1) progress on the K-16 Education Web Site; (2) mission statements for subcommittees; (3) federal job designation of “limnologist;” (4) the NSF/ASLO Workshop on Limnology, and, (5) other business. Non-members interested in these issues are welcome to attend.
Ocean Observatories Initiative Open Meeting
Date: Tuesday, February 11, 2003
Time: 7:00 to 8:30 p.m.
Location: Salt Palace Convention Center – Room 150 G
This town meeting will update the community on the progress of the Ocean Observatories Initiative (OOI), NSF's proposed initiative to develop and construct the initial infrastructure for a network of seafloor observatories. It is envisioned that the OOI will provide the research community access to a broad range of long-term measurement from the air-sea interface to below the seafloor. This event will complement sessions associated with the meeting sub-themes “Spatial Patterns in Aquatic Systems” and “Extreme Environment on Earth and Beyond.” Panelists will define key issues and discuss science objective and challenges associated with incorporating biogeochemical sensors and micro-/nanotechnology into observatory networks.

National Oceanographic Partnership Program (NOPP) Information Session
Date: Thursday, February 13, 2003
Time: 7:00 to 8:30 p.m.
Location: Salt Palace Convention Center – Room 150 G
Federal officials from the NOPP Interagency Working Group (IWG) will be joined by NOPP Program Office staff and others to provide a brief overview of recent developments in the NOPP program. Future plans for NOPP will be discussed, including an update on the evolving plans to develop routine ocean observations of U.S. coastal as well as open ocean waters. There will be ample opportunity for questions and comments from meeting attendees.

Field Trips and Special Activities
Although the meeting will take much of your time, we do not want you to miss out on any of the history, culture, beauty, and other places of interest that are unique to the Salt Lake City area. The field trips that follow are planned to give you a taste of what this area of Utah has to offer.

If you have already registered for the meeting and would like to sign up for any of the field trips, please complete the form in this program or download the form from http://www.aslo.org/slcl2003/files/aslo2003-activitiesform.pdf and fax it back to the ASLO Business Office at (254) 776-3767 with payment information. Reservations cannot be accepted via e-mail or phone, nor can they be accepted without payment in advance. All of the field trips listed below are dependent upon a minimum number of reservations and some have space limitations that apply.

Antelope Island, Great Salt Lake and Prehistoric Lake Bonneville Field Trip
Date: Sunday, February 9, 2003
Cost: $33.00 per person
Antelope Island lies in the Great Salt Lake and it can be accessed by car via a causeway. On this all-day field trip we will visit the State Park where bison, deer and perhaps bighorn sheep can be viewed. We can also view prehistoric beaches of Lake Bonneville that covered up to 50,000 km2 of the Great Basin 32-14 thousand years ago. The trip will be led by geologists Drs. Don Currey and Des Moer. For more information go to http://www.ugs.state.ut.us/online/PI-39/PI39PG1.HTM

Bear Lake Ecology and Paleolimnology Field Trip
Date: Sunday, February 9, 2003
Cost: $36.00 per person
Bear Lake, spanning the Utah-Idaho border, lies 150 miles north of Salt Lake City. The lake hosts several endemic fishes and is an important fishery for both states. It is also a site of intensive paleolimnological studies on 120-m-long cores collected using the new Global Lake Drilling (GLAD800) drilling platform. Fish ecologist Chris Luecke and paleolimnologist Walt Dean will be your hosts for viewing this fascinating lake.

Soldier's Hollow Skiing Trip
Cost: $135.00 per person
The Castle Inn is a beautiful bed and breakfast located near Midway, Utah, and near the Soldier Hollow Olympic cross country skiing venue. Ski rentals are available at the venue. Downhill skiers may also stay at the Inn and travel by their own vehicle to nearby downhill resorts (Deer Valley, Park City). A hot tub is available. Costs are for double occupancy. You will need to rent a vehicle and travel 55 minutes from Salt Lake City to the Inn. Price includes lodging on the night of the 14th and breakfast and skiing on the 15th.

Special Activities
A number of special activity opportunities are being organized for ASLO 2003 Aquatic Sciences Meeting participants by Summit Destinations. Arrangements to participate in any of the following special activities can be made through Donna Dick at Summit Destinations. Please call (801) 536-5858 or (888) 777-3255 or send a fax to (801) 531-1633. Donna also can be contacted directly via e-mail at donna@travel-zone.com. Reservations are on an individual basis and must be made through Summit Destinations. Reservations cannot be made via the conference web site. Both prices and times shown are subject to change, therefore you must call Summit Destinations to make your reservations and to confirm rates, times, and arrangements.

Skiing in the Salt Lake City area will be a popular activity for this winter meeting. The four Salt Lake ski resorts: Alta Ski Area, Brighton Resort, Snowbird Ski and Summer Resort and Solitude Mountain Resort are accessible from the downtown and area hotels and motels. Check with your hotel for shuttle information. If you would like to learn more about any of the ski resorts in the area, visit http://www.visitsaltlake.com/ski/resorts.html

Downhill Skiing
Park City Mountain
Full day pass: ................................................ $62 per person
Half day pass: ................................................. $47 per person
Lessons: ......................................................... Rates on request
Round trip transfer: ........................................... $30 per person

Deer Valley
Full day pass: ................................................ $67 per person
Half day pass: ................................................. $46 per person
Lessons: ......................................................... Rates on request
Round trip transfer: ........................................... $30 per person
Alta
Full day pass: ..................................................... $40 per person
Half day pass: ............................................... $32.50 per person
Lessons: ..........................................................Rates on request
Round trip transfer: ............................................. $30 per person

Snow Bird
Full day pass (Tram and chair): ............................ $58 per person
Full day pass (Chair only) .................................... $49 per person
Half day pass: ...................................................................... N/A
Lessons: ..........................................................Rates on request
Round trip transfer: ............................................. $30 per person

Snowboarding
Park City Mountain
Full day pass: ..................................................... $62 per person
Half day pass: .................................................... $47 per person
Lessons: ..........................................................Rates on request
Round trip transfer: ............................................. $30 per person

The Canyons
Full day pass: ..................................................... $57 per person
Half day pass: .................................................... $47 per person
Lessons: ..........................................................Rates on request
Round trip transfer: ............................................. $30 per person

Cross Country Skiing / Snowshoeing
Park City Mountain-White Pines
Half day pass: .................................................... $20 per person
Lessons: .........................................................  Rates on request
Round trip transfer: ............................................. $30 per person

Snowmobiling
Park City Mountain-Red Pines
9:30 a.m.: ........................................................ $125 per person
1:30 p.m.: ........................................................ $125 per person
Equipment rental: .....................  $10 for suit/boots/gloves per person
Round trip transfer: ............................................. $30 per person

Activity prices are based on prices in effect in 2002. There may be a small price increase for 2003. All services are subject to local taxes in effect at the time of the activity. Prepaid prices will vary from on-site prices due to advance purchase discounts and availability.

Enjoy Your Visit to Salt Lake City
Representatives from the Salt Lake Convention & Visitors Bureau (SLCVB) will be available on-site to provide assistance to ASLO 2003 Aquatic Science Meeting participants and guests. To learn more about the city in advance such as how to get around, things to do, area attractions, sightseeing opportunities, dining, nightlife, shopping, etc., please visit their award-winning web site at http://www.visitsaltlake.com.

Instructions for Presenters

Instructions for Poster Presenters
Poster sessions are an important part of the ASLO 2003 Aquatic Sciences Meeting and provide invaluable contributions to the theme and sub-themes. Posters will be on display in the poster reception/exhibit area of the Salt Palace Convention Center from 8:00 a.m. to 7:30 p.m. Tuesday, February 11, through Thursday, February 13. Poster sessions will coincide with the poster reception each evening from 5:30 to 7:30 p.m. Refreshments will be served during the poster sessions. Poster presenters will have a designated day to present their poster depending upon the poster session to which you are assigned. Authors should be available for discussion purposes during the poster session/reception on the day of their assigned session. All poster presenters were notified of their poster number, poster presentation time and day in advance of the meeting. If you did not receive such notification, please contact the conference management office at business@aslo.org or call 800-929-2756 or 254-399-9635.
When preparing your poster for presentation, please note that poster space will be exactly 4 ft. by 4 ft. (1.16m by 1.16m) in size. Posters must be prepared to these specifications so that they fit within the space assigned to them. Pushpins will be provided.

It is very important that poster presenters adhere to the designated set up and tear down instructions and times. Posters may be set up on Monday, February 10, 2003, from 3:00 to 5:00 p.m. You will set up your poster according to your assigned number and to the sequential numbers on the poster boards. Student posters will be judged immediately following the completion of the poster set-up time on Monday afternoon. Therefore, student posters that are not in place by this time will not be eligible for awards and will not be judged.

All posters must be set up and ready for viewing on Tuesday, February 11, prior to the beginning of the first poster session/reception in the poster reception area.

All posters must be dismantled on Thursday evening, February 13, from 7:30 to 9:30 p.m., after the conclusion of the last poster session. If a poster has not been dismantled by the presenting author by this time, it may be discarded by the convention decorator.

**Instructions for Oral Presentations**

All concurrent sessions will take place at the Salt Palace Convention Center. With the exception of tutorials, oral presentations will be a total of 15 minutes in length, including set up, questions, and discussion. Please plan to allow at least five minutes for questions and discussion time. Session chairs have been instructed to strictly adhere to the schedule so that participants may move quickly among the concurrent session locations. If a presentation should be cancelled for any reason, this time will be used for additional discussion or a stretch break.

Presenters will not be allowed to provide their own laptop computer, and, in fact, personal laptop computers cannot be plugged into projectors in oral session rooms.

**Speaker Ready Room**

A speaker ready room will be located in Room 250 F of the Salt Palace Convention Center for presenters to preview their materials and run-through their presentations. The speaker ready room will be open from 1:00 to 9:00 p.m. on Sunday and from 7:30 a.m. to 7:00 p.m. on Monday, Tuesday, Wednesday, and Thursday. The speaker ready room will not be open on Friday.

Audio-visual technicians will be available in Room 250 F during the hours specified.

You must bring your PowerPoint presentation to the speaker ready room at least 24 hours before your presentation. Qualified technicians can help you transfer your presentation from your laptop, if necessary.

Speakers will have the ability to review and make changes to their PowerPoint presentations in the speaker ready room. It is recommended that each presentation be reviewed no less than three hours before the start of the session.

If you are using slides, extra slide carousels will be provided in the speaker ready room. If you are using one of these carousels, please mark it with your name using the tape and markers that will be provided in the room.

**Electronic Presentation Guidelines**

All PC computers in the speaker ready room will be installed with Microsoft Office 2000®, PowerPoint presentations created on the Macintosh platform should work, but Macintosh presentations should be reviewed in the speaker ready room to make sure all fonts and video clips are present in the form they were created in. Macintosh users should name their presentations with a .ppt suffix (example: presentation.ppt).

If you plan to do a PowerPoint presentation, it is highly recommended that you have a backup of your presentation in the form of slides or overhead transparencies.

**Microsoft XP**

If you are using Microsoft Office XP, please save your PowerPoint presentation down to the PowerPoint 97-2000 version.

**“Pack & Go”**

The “Pack & Go” utility within Microsoft PowerPoint is a useful tool to use when you place video and/or sound files within your presentation. It is also helpful when using non-standard fonts within your presentation. This utility will compress your presentation along with the associated files into a single compressed file. You can then copy your presentation onto a floppy disk, CD-R, CD-RW, or Zip disk and bring it to the speaker ready room, where it can be unpacked and reviewed. It is important to remember that Macintosh only offers this option in its Macintosh Office for OS X only.

**Laptop Support**

A-V technicians will offer support to remove presentations from laptops. This action will require the installation of Zip Disk drivers or the installation of other drivers for removable media. It also might be required to configure the network card. If you plan on having to remove your presentation from your laptop, it is advisable to show up to the speaker ready room as soon as possible, to work out any unforeseen problems.

**Media Support**

We recommend you bring at least 2 copies of your presentation to the meeting in case there is a problem with one of them. When bringing your presentation on a disk, it may be on a Zip 100, Zip 250, CD-R, CD-RW, Compact Flash, Memory Stick, or 1.44 floppy. It is recommended that at least one backup copy of your presentation be brought to the speaker ready room when you check in.

**Additional Presentation Guidelines**

Keep animations to a minimum. When using a bulleted list of points, it may be useful to have the points appear.

Zip Disks, 1.44 Floppy, and CD’s will be returned to the speaker. All presentations will be deleted at the end of the day. All copies will be deleted at the end of the meeting.

**Pre-Conference Presentation Uploading**

If you wish to send your presentation prior to the conference, pre-conference uploading instructions are available by following these steps:

1. Go to www.avhqspeecherservices.com
2. Select “Submit Your Presentation.”
3. Select your show from the dropdown list of Available Conference/Shows.

4. Select “Presenter Login.”

5. If it is your first visit, then Create User Profile. (You will be e-mailed a confirmation of your User ID and password to save for future reference.)

6. If it is the second visit, then login w/user name and password to get to “Submit YourPresentation.”

7. You will be presented with two options: Update “Previously Added Presentation” or “Submit New Presentation.”

You will receive confirmation of your submitted presentation. If there is a problem with uploading during the submission process, a technician will walk you through the steps on the telephone tech support line. Once uploaded, speaker technicians will open the presentation file to make sure everything will open and execute correctly. If any changes are made, they will notify the presenter via e-mail or phone and advise them as to whether it is correct or if further work is needed.

Abstracts

Abstracts for this meeting will be posted on the ASLO 2003 Aquatic Sciences Meeting web site (http://www.aslo.org/slc2003), and a complete book of abstracts will be distributed to registered attendees at the meeting.

Further Information

For any PowerPoint presentation or audio-visual related questions, please contact:

David Fuller
National Account Executive
AVHQ Dallas
10540 N. Stemmons Freeway
Dallas, Texas 75220
Phone: 214-210-8025
Fax: 214-210-8164
E-mail: dfuller@avhq.com

Audio/Visual Equipment Information

All oral session rooms will be equipped with the following audio-visual equipment:

- 1 computer projector (PowerPoint)
- 1 PC computer
- 1 overhead projector
- 1 35 mm slide projector
- 1 screen
- 1 laser pointer
- 1 timer
- 1 lavalier microphone

Internet connectivity is not available in oral session rooms.

Rental of additional audio-visual equipment:

Rental of a VCR, monitor, audio systems, provision of extra power outlets, extra tables, stands, etc. can be handled for an additional cost. If you did not request extra equipment at the time your abstract was submitted, please contact David Fuller at AVHQ (Phone: 214-210-8025, Fax: 214-210-8164 or E-mail: dfuller@avhq.com.) Any costs for additional equipment will be billed to the abstract’s presenting author.

Registration Information

Online registration is preferred and highly recommended. You can register electronically on the conference web site (http://www.aslo.org/slc2003). Electronic registrations must include complete credit card information.

Every attempt has been made to allow secure transmissions of your credit card information and transaction, but ASLO assumes no liability for your credit card information when it is released electronically. All credit card transactions will be processed through the conference web site. Transactions are protected and encrypted using a secure socket layer (SSL) certificate provided by Verisign, Inc. SSL technology is the industry-standard method for protecting web communications. The SSL security protocol provides data encryption, server authentication, message integrity, and optional client authentication for a TCP/IP (Internet) connection. Credit card verification and debit services will be provided by Authorize.net, a leading provider of Internet-based transaction services with thousands of online and traditional business customers around the world.

You will receive a separate electronic confirmation for each form that you submit.

If registration by electronic means is not possible, please complete the registration form included in this book and send to the address listed below with payment or charge card information. Please return mailed-in registrations to:

ASLO Business Office
5400 Bosque Boulevard, Suite 680
Waco, Texas 76710-4446

Please make checks payable to: ASLO (All payments must be in U.S. dollars drawn on a U.S. bank.)

Registrations complete with purchase order or credit card information can be faxed to: (254) 776-3767.

The full registration fee includes admission to all sessions, exhibits, evening sessions (unless otherwise specified), free workshops, Sunday welcome reception and poster receptions (Tuesday through Thursday), coffee breaks, book of abstracts, and the program book (sent to all registrants prior to the conference). Optional events such as the organized field trips and special activities and the Wednesday evening reception are not included.

Substantial savings apply if the payment and registration form are received on or before January 9, 2003.

Substitutions or Cancellations

We understand that occasionally other responsibilities and personal obligations prevent you from attending a program for which you have registered. If you find that you will not be able to attend the ASLO meeting, we encourage you to send a substitute. Substitutions can be made at any time, even on-site at the conference.

If you find it necessary to cancel after you have already paid, we can refund your conference fee (less an $80 USD processing fee) if we receive notice in writing on or before January 9, 2003. Due to
the limited number of enrollments available, registrants who cancel on or after January 10, 2003, will not be eligible for any part of a refund.

To provide cancellation notice and request a refund, please send a letter to: Helen Schneider Lemay, ASLO Business Office, 5400 Bosque Boulevard, Suite 680, Waco, Texas 76710-4446, fax your request to (254) 778-3767, or via e-mail to business@aslo.org.

Non-Refundable Fees for Duplicate Registrations and Abstract Changes
Duplicate registrations will be charged a non-refundable processing fee of $60 USD to cover the costs associated with processing. If registering electronically, DO NOT submit mailed-in hard copies as well.

When presenters were notified of their presentation assignment, they were given an opportunity to review and make changes to their abstract (text, title and author information) regarding any typographical errors, minor corrections, or problems that may have occurred in the transmission of certain characters. However, it is no longer possible to make changes without payment of an abstract change fee. Any author who now requests changes will be charged an abstract change fee of $60.00 USD.

Registration Fees
Fees are stated in U.S. dollars and must be paid in U.S. dollars. In order to register as an ASLO member, you must be a current member of the society at the time that you register. Registration fee refunds will not be issued to those who register as a non-member and then later join the society. Likewise, if you joined the society before the end of 2002 to take advantage of the member registration fee discount, your membership cannot be applied to 2003.

- ASLO Members: $300.00 USD on or before January 9, 2003 ($360.00 USD after January 9, 2003)
- Non-members (Those who are not a member of ASLO): $350.00 USD by January 9, 2003 ($410.00 USD after January 9, 2003)
- ASLO Student Members: $200.00 USD by January 9, 2003 ($260.00 USD after January 9, 2003)
- Non-Member Students: $250.00 USD by January 9, 2003 ($310.00 USD after January 9, 2003)
- One-day registrations: $150.00 USD
- Spouse/Guest: $100.00 USD (Spouse and guest fees cover only the conference social events such as the Sunday welcome reception, coffee services, and the poster receptions (Tuesday through Thursday). Optional events are not included. However, spouses and guests are encouraged to register for special activities. Spouses and guests cannot be admitted to the sessions without paying the appropriate full registration fee.)

A late fee of $60.00 USD will be added to all registrations received after January 9, 2003.

Fees to attend ASLO’s 2003 Aquatic Sciences Meeting must be paid in advance. Due to the limited numbers, registrations are not considered guaranteed until a check, money order, purchase order, or charge card information is received. All fax registrations must include complete credit card information, including number, expiration date, and cardholder name. VISA, MasterCard, and American Express are accepted. Organizations can be billed only if a purchase order accompanies the registration either by fax or by mail.

Registration and any other fees listed on the conference registration form are payable in U. S. currency only.

If desired, confirmation will be sent to attendees upon receipt of each completed and paid registration.

Conference Check-In and Registration
Registration prior to the meeting is strongly encouraged. By doing so, you will greatly reduce the amount of time necessary to complete the on-site registration process and pick up your meeting materials.

Meeting materials and name badges can be picked up on Sunday, February 9, 2003, at the Salt Palace Convention Center from 1:00 to 9:00 p.m. Registration will be opened each day at the convention center, from Monday, February 10, through Thursday, February 13, from 7:00 a.m. to 5:00 p.m., and on Friday,February 14, from 7:00 a.m. until the conclusion of the conference.

Name badges will be included in your registration materials and must be worn at all times throughout the meeting. Your conference receipt will be included with your badge.

Maps showing the various session and meeting room locations will be included in the abstract book that you will receive on-site when you check-in for the meeting.

Miscellaneous Information

Currency Exchange
Cash machines with 24-hour access are available at many convenient locations in Salt Lake City. Wells Fargo Bank, N.A. has an international teller window located at 79 South Main Street, downtown. They offer international banking services, and they buy and sell foreign currency bank notes in addition to providing international funds transfers and drafts. For additional information, please call 801-246-1069 or contact them by fax at 801-246-1800.

Special Needs
If you have a disability or limitation that may require special consideration in order to fully participate, please check the box on the registration form. Someone from the planning organization will contact you to see how we can accommodate your needs.

Childcare
On-site childcare will be provided by Guardian Angel Babysitting Service at the Salt Palace Convention Center beginning Saturday, February 8, through Friday, February 14, 2003. Hours of availability are 7:00 a.m. to 7:30 p.m., Saturday through Thursday, and on Friday from 7:00 a.m. to 12:00 p.m. Reservations are required. Please contact Tara Sylvester by leaving a voice mail message at 801-598-1229 by January 15, 2003, to make arrangements. You also can contact Tara via fax at 435-658-1913. Please let her know that you will be attending the ASLO meeting at the Salt Palace Convention Center. She will call you back to confirm your reservation and to let you know what to bring for your child or children depending upon the age(s). Guardian Angel Babysitting will provide toys and activities throughout the day. The cost is $12 per
hour for one child and $1 more for each additional child. A three-hour minimum applies to both day and evening hours (after 5:00 p.m.). Parents will be asked to pay individually by day by cash, check, Visa, MasterCard or Discover.

Please note that any arrangements made represent a contractual agreement between the individual and Guardian Angel Babysitting Service. ASLO assumes no responsibility for the services rendered.

Message and Jobs Boards
Messages for colleagues can be posted on message boards at the Salt Palace Convention Center. A bulletin board also will be available to post job listings. If you know of pertinent job announcements, you are encouraged to take advantage of this opportunity by posting them on this board. If you know of a job opportunity and would like to submit a listing but will not be able to attend the meeting, please e-mail a brief description to either of the ASLO student board representatives Cynthia Kicklighter (cynthia.kicklighter@asu.edu) or Colin Stedmon (cst@dmu.dk) by January 17, 2003.

E-mail Access
E-mail terminals to access electronic mail will be set up in Room 252 AB at the Salt Palace Convention Center during conference hours Monday through Friday. We also suggest you check with your hotel regarding the e-mail facilities and instructions on access.

Donations to the Utah Food Bank
Food items that may be left over during ASLO 2003 functions at the Salt Palace Convention Center will be donated to the Utah Food Bank in the name of ASLO.

For More Information
For more information on the ASLO 2003 Aquatic Sciences Meeting, address all correspondence and questions regarding registration, conference logistics, and hotel accommodations to:

Helen Schneider Lemay
Registration Coordinator and Meeting Manager
ASLO Business Office
5400 Bosque Boulevard, Suite 680
Waco, Texas 76710-4446
Phone: 254-399-9635, Toll-Free: 800-929-ASLO
Fax: 254-776-3767
E-mail: business@aslo.org

If your questions pertain to the program, please contact one of the meeting chairs. If you need information regarding content of a particular session, please contact the appropriate session organizer.

Hotel and Accommodation Information
ASLO has selected six (6) hotels, all within walking distance of the Salt Palace Convention Center, to host the ASLO meeting delegates. These hotels provide a range of sleeping room rates.

If you have not done so already, we remind you to make your hotel reservations through the Salt Lake Convention and Visitors Bureau Housing Bureau by calling toll-free from the U.S. (800) 217-0002 or international (801) 521-9025; by faxing (801) 355-0250 or sending in your completed housing form in the mail to: SLCVB/ASLO Housing Bureau, 90 South West Temple, Salt Lake City, UT 84101. You can download the form at http://www.aslo.org/slc2003/files.html. You also can submit your housing reservation via the Salt Lake Convention and Visitors Bureau Housing Bureau web site at http://www.pkghlrss.com/events/7740/7740.html. Reservations must be made by phone, fax, mail or Internet by January 13, 2003, in order to guarantee the special meeting rates.

Reservations must be made by phone, fax, mail or Internet by January 13, 2003, in order to guarantee the special meeting rates.

Conference Hotels

Marriott Salt Lake City Downtown (Headquarters Hotel)
75 South West Temple
Salt Lake City, Utah 84101-1407
Rate: $119 USD per night, single/double occupancy

The Salt Lake City Marriott Downtown boasts the premier location in the heart of the city marketplace. Directly across the street from the Salt Palace Convention Center, one-half block from Historic Temple Square and connected to the Crossroads shopping plaza which features 145 shops and a food court. The hotel offers “Elevations” restaurant, “Destinations Coffee Bar” featuring Starbucks coffee blends. Additional service amenities include a gift shop, 24-hour business center, indoor/outdoor pool, Hertz auto rental, high-speed Internet access, and concierge level. Airport shuttle is available.

Wyndham Salt Lake City
215 West South Temple
Salt Lake City, Utah 84101-1333
Rate: $114 USD per night, single/double occupancy

The Wyndham Salt Lake City is a 381-room full service luxury hotel. The hotel is located just steps from the Salt Palace Convention Center (with no streets to cross), next to the Delta Center sports arena, one block from Temple Square, and, like other Salt Lake hotels, is convenient to seven major ski resorts. Every guest room offers the highest quality Serta Pillow-Top mattress, duvets, dedicated high-speed Internet access, two dual-line telephones, cordless phone, voice mail, Herman Miller ergonomic chair, recliner, bathroom amenities by Bath and Body Works, coffeeemaker, hair dryer, iron/ironing board, and much more! Enjoy the indoor heated pool and sauna, exercise facilities, and panoramic views of the mountains. Airport shuttle is available.

Shilo Inn Hotel - Salt Lake City
206 South West Temple
Salt Lake City, Utah 84101-1994
Rate: $104 USD per night, single/double occupancy

Located downtown, across the street from the Salt Palace Convention Center, guest rooms feature microwave, refrigerator, data ports, coffeeemaker, ironing unit, first-run movies, hair dryer, and local newspaper. Restaurants, free guest parking, Lite American Breakfast, airport shuttle, private club, 24-hour pool, spa, sauna, fitness center, banquet meeting space, VP penthouse, and gift shop.
Transportation Information

Special Airline Rates
Located approximately 10 minutes from downtown Salt Lake City, Salt Lake International Airport serves over 700 daily flights. Delta Airlines is providing special rates for ASLO Aquatic Sciences Meeting attendees as the official airline for flights to Salt Lake. Simply contact Delta's toll-free number at (800) 241-6760. You also can call your travel agent. To take advantage of the discounted fares being offered by Delta, please refer to Delta File Number: 189424A when making your reservations. Delta’s new “bonus” program has increased the discount to 10% off the lowest applicable fare for tickets purchased less than 60 days prior to departure and 15% for tickets purchased at least 60 days prior to departure. By ensuring that the meeting number appears on your ticket, you will be supporting ASLO.

Airport Shuttle Service
Each of the six (6) conference hotels provides airport shuttle service. Please call your hotel to verify airport pick-up and return times. Three (3) of the hotels offer complimentary shuttle service: Quality Inn, Shilo, and Best Western. The three (3) remaining charge a fee: Hilton - $6.00 USD each way; Marriott - $7.00 USD each way or $13.00 round trip, and Wyndham - $7.00 USD each way or $13.00 round trip. Shuttle vans are accessible outside of each airport terminal.

Car Rental
AVIS has been appointed the official car rental company for the American Society of Limnology and Oceanography meeting in Salt Lake City. To make reservations if you are calling from the U.S., please call (800) 331-1600. If you live outside the U.S., please visit the website www.avis.com for a list of international numbers to call and select Customer Service. You may also contact your travel agent. The AVIS Worldwide Discount Number for the ASLO meeting is: D130903.

Taxi - Bus Service to the Airport
Taxi service from the Salt Lake International Airport to any of the six conference hotels will cost approximately $15.00 USD. City bus service (Utah Transit Authority) is also available from the airport to downtown for a cost of $1.25 USD. For more information on the bus system, please call (801) 743-3882 or visit them on the web: www.rideuta.com.

Local City Transportation
The Utah Transit Authority serves the Salt Lake area. For more information on the bus system including schedules and fares, please call (801) 743-3882 or visit them on the web: www.rideuta.com.

Salt Lake Palace Convention Center Parking
Public parking is available at the convention center for a daily fee of $5.00 USD. This parking area is located beneath the convention center and is accessible from 200 South.
### Meeting Schedule

#### Sunday, February 9, 2003

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 – 9:00 p.m.</td>
<td>Registration</td>
<td>Salt Palace Convention Center – East Registration Area</td>
</tr>
<tr>
<td>1:00 – 2:00 p.m.</td>
<td>Stable Isotopes Workshop</td>
<td>Salt Palace Convention Center – Room 150 G</td>
</tr>
<tr>
<td>2:00 – 5:30 p.m.</td>
<td>Minorities Program Session</td>
<td>Salt Palace Convention Center – Room 250 C</td>
</tr>
<tr>
<td>2:30 – 3:30 p.m.</td>
<td>ICPMS Workshop</td>
<td>Salt Palace Convention Center – Room 150 G</td>
</tr>
<tr>
<td>5:30 – 6:30 p.m.</td>
<td>Opening Remarks</td>
<td>Samantha &quot;Mandy&quot; Joye, University of Georgia, 2003 Aquatic Sciences Meeting Co-chair</td>
</tr>
<tr>
<td>6:30 – 9:00 p.m.</td>
<td>Opening Welcome Mixer Reception</td>
<td>Salt Palace Convention Center – South Ballroom Foyer</td>
</tr>
</tbody>
</table>

#### Monday, February 10, 2003

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m. – 5:00 p.m.</td>
<td>Registration</td>
<td>Salt Palace Convention Center – East Registration Area</td>
</tr>
<tr>
<td>8:00 – 8:30 a.m.</td>
<td>Complimentary Coffee Service</td>
<td>Salt Palace Convention Center – Grand Ballroom Foyer</td>
</tr>
<tr>
<td>8:30 – 9:30 a.m.</td>
<td>Conference Welcome and Awards Presentation</td>
<td>Dr. Peter Jumars, University of Maine, ASLO President</td>
</tr>
<tr>
<td></td>
<td>Opening Remarks</td>
<td>David J. Des Marais, Research Scientist, Space Science and Astrobiology, NASA – Ames Research Center</td>
</tr>
<tr>
<td></td>
<td>Opening Address</td>
<td>Salt Palace Convention Center – Grand Ballroom AB and North Foyer</td>
</tr>
<tr>
<td>9:30 – 10:15 a.m.</td>
<td>Plenary Address</td>
<td>James &quot;Jim&quot; Cotner, University of Minnesota, 2003 Aquatic Sciences Meeting Co-chair</td>
</tr>
<tr>
<td>9:30 a.m. – 5:15 p.m.</td>
<td>Minority Student Symposium</td>
<td>Salt Palace Convention Center – Room 151 ABC</td>
</tr>
<tr>
<td>9:30 a.m. – 12:00 p.m.</td>
<td>Town Meeting: Emerging Research Issues for Limnology</td>
<td>Salt Palace Convention Center – Room 250 AB</td>
</tr>
<tr>
<td>10:45 – 11:00 a.m.</td>
<td>Break</td>
<td>Salt Palace Convention Center – Levels 1 and 2</td>
</tr>
<tr>
<td>11:00 a.m. – 12:15 p.m.</td>
<td>Morning Concurrent Sessions</td>
<td>Salt Palace Convention Center – Various Rooms</td>
</tr>
<tr>
<td>12:15 – 2:15 p.m.</td>
<td>Lunch</td>
<td>Attendees on their own for lunch</td>
</tr>
<tr>
<td>10:15 – 10:45 a.m.</td>
<td>Break</td>
<td>Salt Palace Convention Center – Levels 1 and 2</td>
</tr>
<tr>
<td>10:45 a.m. – 12:00 p.m.</td>
<td>Morning Concurrent Sessions</td>
<td>Salt Palace Convention Center – Various Rooms</td>
</tr>
<tr>
<td>12:00 – 2:00 p.m.</td>
<td>Lunch</td>
<td>Attendees on their own for lunch</td>
</tr>
</tbody>
</table>

#### Tuesday, February 11, 2003

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m. – 5:00 p.m.</td>
<td>Registration</td>
<td>Salt Palace Convention Center – East Registration Area</td>
</tr>
<tr>
<td>8:00 a.m. – 7:30 p.m.</td>
<td>Exhibits</td>
<td>Salt Palace Convention Center – Grand Ballroom E-J</td>
</tr>
<tr>
<td>8:30 – 9:15 a.m.</td>
<td>Opening Remarks</td>
<td>Samantha &quot;Mandy&quot; Joye, University of Georgia, 2003 Aquatic Sciences Meeting Co-chair</td>
</tr>
<tr>
<td></td>
<td>Opening Address</td>
<td>Dr. Donald E. Canfield, Institute of Biology, Odense University, Odense, Denmark</td>
</tr>
<tr>
<td>9:15 – 9:30 a.m.</td>
<td>Break</td>
<td>Salt Palace Convention Center – Levels 1 and 2</td>
</tr>
<tr>
<td>9:30 – 12:00 p.m.</td>
<td>Morning Concurrent Sessions</td>
<td>Salt Palace Convention Center – Various Rooms</td>
</tr>
<tr>
<td>10:45 – 11:00 a.m.</td>
<td>Break</td>
<td>Salt Palace Convention Center – Levels 1 and 2</td>
</tr>
<tr>
<td>11:00 a.m. – 12:15 p.m.</td>
<td>Morning Concurrent Sessions</td>
<td>Salt Palace Convention Center – Various Rooms</td>
</tr>
<tr>
<td>12:15 – 2:15 p.m.</td>
<td>Lunch</td>
<td>Attendees on their own for lunch</td>
</tr>
<tr>
<td>12:15 – 2:15 p.m.</td>
<td>Public Policy Workshop</td>
<td>Salt Palace Convention Center – Room 150 DEF</td>
</tr>
<tr>
<td>12:30 – 1:30 p.m.</td>
<td>NSF Funding Opportunities for Freshwater Research Workshop</td>
<td>Salt Palace Convention Center – Room 250 DE</td>
</tr>
<tr>
<td>2:15 – 3:30 p.m.</td>
<td>Morning Concurrent Sessions</td>
<td>Salt Palace Convention Center – Various Rooms</td>
</tr>
<tr>
<td>3:30 – 4:00 p.m.</td>
<td>Break</td>
<td>Salt Palace Convention Center – Levels 1 and 2</td>
</tr>
<tr>
<td>4:00 – 5:15 p.m.</td>
<td>Afternoon Concurrent Sessions</td>
<td>Salt Palace Convention Center – Various Rooms</td>
</tr>
</tbody>
</table>
Wednesday, February 12, 2003

7:00 a.m. – 5:00 p.m.  Registration
Salt Palace Convention Center – East Registration Area

8:00 a.m. – 7:30 p.m.  Exhibits
Salt Palace Convention Center – Grand Ballroom E-J

8:30 – 9:15 a.m.  Opening Remarks and Introduction of Plenary Speaker
Jim Cotner, University of Minnesota, 2003 Aquatic Sciences Meeting Co-chair
Plenary Address
Jim Elser, Professor and Director of Undergraduate Programs, Department of Biology, Arizona State University
Salt Palace Convention Center – Grand Ballroom AB and North Foyer

9:15 – 9:30 a.m.  Break
Salt Palace Convention Center – Levels 1 and 2

9:30 – 10:45 a.m.  Morning Concurrent Sessions
Salt Palace Convention Center – Various Rooms

10:45 – 11:00 a.m.  Break
Salt Palace Convention Center – Levels 1 and 2

11:00 a.m. – 12:15 p.m.  Morning Concurrent Sessions
Salt Palace Convention Center – Various Rooms

12:15 – 2:15 p.m.  Lunch
Attendees on their own for lunch

2:15 – 3:30 p.m.  Afternoon Concurrent Sessions
Salt Palace Convention Center – Various Rooms

3:30 – 4:00 p.m.  Break
Salt Palace Convention Center – Levels 1 and 2

4:00 – 5:15 p.m.  Afternoon Concurrent Sessions
Salt Palace Convention Center – Various Rooms

5:30 – 7:30 p.m.  Exhibits, Poster Session & Reception
Salt Palace Convention Center – Grand Ballroom E-J

7:00 – 10:30 p.m.  Optional Wednesday Evening Reception – Snowbird Ski Resort
Buses depart from south side of building between West Temple and 200 West St. at 7:00 p.m. and will return to the same location at 10:30 p.m.

Thursday, February 13, 2002

7:00 a.m. – 5:00 p.m.  Registration
Salt Palace Convention Center – East Registration Area

8:00 a.m. – 7:30 p.m.  Exhibits
Salt Palace Convention Center – Grand Ballroom E-J

8:30 – 9:15 a.m.  Opening Remarks and Introduction of Plenary Speaker
Samantha “Mandy” Joye, University of Georgia, 2003 Aquatic Sciences Meeting Co-chair
Plenary Address
Colleen Cavanaugh, Department of Molecular and Cellular Biology, Harvard University
Salt Palace Convention Center – Grand Ballroom AB and North Foyer

9:15 – 9:30 a.m.  Break
Salt Palace Convention Center – Levels 1 and 2

9:30 – 10:45 a.m.  Morning Concurrent Sessions
Salt Palace Convention Center – Various Rooms

10:45 – 11:00 a.m.  Break
Salt Palace Convention Center – Levels 1 and 2

11:00 a.m. – 12:15 p.m.  Morning Concurrent Sessions
Salt Palace Convention Center – Various Rooms

12:15 – 2:15 p.m.  Lunch
Attendees on their own for lunch

2:15 – 3:30 p.m.  Afternoon Concurrent Sessions
Salt Palace Convention Center – Various Rooms

3:30 – 4:00 p.m.  Break
Salt Palace Convention Center – Levels 1 and 2

4:00 – 5:15 p.m.  Afternoon Concurrent Sessions
Salt Palace Convention Center – Various Rooms

5:30 – 7:30 p.m.  Exhibits, Poster Session & Reception
Salt Palace Convention Center – Grand Ballroom E-J

7:00 – 8:30 p.m.  National Oceanographic Partnership Program Information Session
Salt Palace Convention Center – Room 150 G

7:30 – 9:30 p.m.  Exhibit and Poster Teardown
Salt Palace Convention Center – Grand Ballroom E-J

Friday, February 14, 2003

7:00 a.m. – 12:00 p.m.  Registration
Salt Palace Convention Center – East Registration Area

8:30 – 9:45 a.m.  Morning Concurrent Sessions
Salt Palace Convention Center – Various Rooms

9:45 – 10:15 a.m.  Break
Salt Palace Convention Center – Levels 1 and 2

10:15 – 11:30 a.m.  Morning Concurrent Sessions
Salt Palace Convention Center – Various Rooms

11:30 a.m.  Meeting Concludes
## Presentation Schedule

### Monday, February 10, 2003

### CS05: Benthic-Pelagic Coupling & Benthos

**Chair(s):** Brian Hentschel, hentsche@sunstroke.sdsu.edu  
**Location:** 250 C  
**10:45 am** Luecke, C.: ASSESSING BENTHIC SUBSTRATES USING HYDROACOUSTIC TECHNOLOGY  
**11:00 am** Hentschel, B. T.; Herrick, B. S.: GROWTH RATES OF INTERFACE-FEEDING SPIONID POLYCHAETES IN SIMULATED TIDAL CURRENTS  
**11:15 am** Bell, E. M.; Weithoff, G.: BENTHIC RECRUITMENT OF ZOOPLANKTON IN AN ACIDIC LAKE  
**11:30 am** Shimeta, J.; Hippe, K. R.; Witucki, P. F.: INFLUENCES OF NUTRITIONAL STATE AND TEMPERATURE ON PARTICLE-CAPTURE MECHANICS IN THE PASSIVE SUSPENSION FEEDER, POLYDORA CORNUTA  
**11:45 am** Powers, L. A.; Michel, E.: IS SUBSTRATE ARCHITECTURE IMPORTANT? : SPATIAL VARIABILITY IN LAKE TANGANYIKA GASTROPOD DISTRIBUTIONS, RESULTS FROM THE NYANZA PROJECT

### CS25: Optics

**Chair(s):** Bruce Hargreaves, brh0@lehigh.edu  
**Location:** 250 C  
**3:45 pm** Roesler, C. S.; Barnard, A. H.: TEMPORAL VARIABILITY IN ECOSYSTEM STRUCTURE IN THE EASTERN MAINE COASTAL CURRENT AS OBSERVED BY THE GULF OF MAINE OCEAN OBSERVING SYSTEM (GOMOOS)  
**4:00 pm** Barnard, A. H.; Roesler, C. S.: TEMPORAL VARIABILITY IN THE REMOTELY SENSED REFLECTANCE IN THE EASTERN MAINE COASTAL CURRENT AS OBSERVED BY THE GULF OF MAINE OCEAN OBSERVING SYSTEM (GOMOOS)  
**4:15 pm** Hargreaves, B. R.; Morrow, J. H.; Larson, G. L.; Girdner, S. F.; Collier, R. W.: ULTRAVIOLET MEASUREMENTS IN CRATER LAKE, OREGON (USA) YIELD NEW ESTIMATES OF UV ATTENUATION AND ABSORPTION BY PURE WATER  
**4:30 pm** Swift, T. J.; Losada, J. P.; Reuter, J. E.; Schladow, S. G.; Mitchell, B. G.; Goldman, C. R.: SEASONAL VARIATIONS OF OPTICALLY-ACTIVE COMPONENTS IN AN ULTRAOLOGICROTROPIC-LAKE  
**4:45 pm** Craig, S. E.: INTERACTION OF LIGHT CLIMATE AND HYDROGRAPHY IN DETERMINING THE VERTICAL DISTRIBUTION OF PRIMARY PRODUCTION IN SCOTTISH FJORDS

### CS38: Wetlands Ecology

**Chair(s):** Kyle Zimmer, zimme076@umn.edu  
**Location:** 250 C  
**2:00 pm** Whitmire, S. L.; Hamilton, S. K.: ANAEROBIC MICROBIAL DECOMPOSITION IN WETLANDS WITH DIFFERENT WATER SOURCES

### CS40: Physical Limnology - New Perspectives and Applications to Biogeochemistry and Productivity of Aquatic Ecosystems

**Chair(s):** Sally MacIntyre, sally@coeas.ucsb.edu  
**Location:** 250 DE  
**10:45 am** Hodges, B. R.: OPEN ISSUES IN 3D MODELING OF INLAND WATERS  
**11:00 am** Laval, B. E.; Forrest, A. L.: CIRCULATION IN PARTIALLY ICE-COVERED LAKES  
**11:15 am** Little, J. C.; Wuest, A.: MERSOMIXIS – THE EFFECT OF WIND, RIVER INFLOW, AND PRIMARY PRODUCTIVITY  
**11:30 am** Rueda, F. J.; Cowen, E. A.: TRANSPORT TIME SCALES IN FRESHWATER EMBAYMENTS  
**2:00 pm** MacIntyre, S.; Clark, J.; Jellison, R.; King, G.: TURBULENCE IN SMALL TO MODERATE SIZED LAKES  
**2:30 pm** Cowen, E. A.; Rueda, F. J.; King, A. T.; Rusello, P. J.; Kul, K. L.: GRAVITY CURRENTS AND BOUNDARY MIXING DURING A WINTER COOLING PERIOD IN A LARGE LAKE  
**2:45 pm** Lorke, A.; Wüest, A.; Miriki, M.; Müller, B.: BREATHING SEDIMENTS – THE CONTROL OF SEDIMENT-WATER FLUXES BY BOUNDARY-LAYER TURBULENCE  
**3:00 pm** Shaw, W.; MacIntyre, S.: MIXING IN THE SEASONAL THERMOCLINE OF A LARGE LAKE: INSTABILITIES OF THE INTERNAL WAVE FIELD  
**3:45 pm** Palmarsson, S. O.; Schladow, S. G.: NEAR-BOUNDARY PARTICLE FLUX IN STRATIFIED LAKES  
**4:00 pm** Schladow, S. G.; Palmarsson, S. O.; Surman, B.; Green, P. G.; Jackman, A. P.; Richards, R. C.: CHANGES IN LAKE PARTICULATE DISTRIBUTION ON HOURLY TIME SCALES  
**4:15 pm** Slesbo, G. M.; Hecky, R. E.; Guilford, S. J.: SPATIAL AND SEASONAL PATTERNS OF THE THERMAL STRUCTURE, DISSOLVED OXYGEN AND CHLOROPHYLL CONCENTRATIONS IN LAKE VICTORIA, EAST AFRICA  
**4:30 pm** King, A. T.; Rueda, F. J.; Cowen, E. A.; Johnson, R. L.: IMPACT OF SPATIAL AND TEMPORAL PATTERNS OF SUBMERGED AQUATIC VEGETATION ON TRANSPORT IN A FRESHWATER EMBAYMENT  
**4:45 pm** Kimura, M.; Yasuaki, A.; Kanako, I.: INTERPRETATION IN PHYSICAL LIMNOLOGY ON INCREASE OF CHLORINE IN LAKE BIWA

*represents Tutorial presentations*
SS1.05: The History and Current Status of Eutrophication in Freshwater and Marine Ecosystems

Chair(s): Val Smith, vsmith@ku.edu
Mandy Joye, mjoye@arches.uga.edu
Robert Howarth, rhow2@cornell.edu
Location: 150 G
10:45 am Schindler, D. W.: A MODERN HISTORY OF THE SCIENCE OF EUTROPHICATION IN LAKES
2:00 pm Alexander, N. B.; Smith, R. A.: HISTORICAL CHANGES IN SELECTED MEASURES OF TROPHIC CONDITIONS IN MAJOR RIVERS OF THE UNITED STATES DURING THE LATE 20TH CENTURY
3:00 pm Tixier, R. R.; Mancera_Pineda, J. E.; Rivera_Monroy, V. H.: VULNERABILITY OF TROPICAL ESTUARIES TO EUTROPHICATION
3:45 pm Havens, K. E.: TRENDS IN TOTAL PHOSPHORUS AT SEASONAL, YEARLY, AND DECADAL TIME SCALES IN LAKE OKEECHOBEE, FLORIDA (USA)
4:15 pm Goldman, C. R.: LESSONS IN CRITICAL ECOSYSTEM PROTECTION: THE ROLE OF SCIENCE IN MANAGEMENT DECISIONS AT LAKE TAHOE
4:45 pm Smith, S. V.; Swaney, D. P.; Talaeu-McManus, L.; Bartley, J. D.; Sandhei, P. T.; McLaughlin, C.; Dupra, V. C.; Crossland, C. J.; Buddemeier, R. W.; Maxwell, B. A.; Wullf, F.: HUMANS, HYDROLOGY, AND THE DISTRIBUTION OF INORGANIC NUTRIENT LOADING TO THE OCEAN

SS1.07: Symposium Tribute to John J. Gilbert: 40 Years of Contributions to Limnology

Chair(s): Jeff Jack, jeff.jack@louisville.edu
Craig Williamson, cew0@lehigh.edu
Location: 251 AB
11:00 am Moore, M. V.: AN INSPIRATION FOR GLOBAL EDUCATION: LIMNOLOGY AT LAKE BAikal
11:15 am Devitt, W. R.: EVIDENCE FOR AN INGESTION RATE VERSUS ASSIMILATION EFFICIENCY TRADE-OFF AMONG DAPHNIA SPECIES FEEDING ON DIET-RESISTANT RESOURCES
11:30 am Wickham, S. A.; Brenninger, U. G.: THE IMPACT OF COPEPODS AND LARVAL KRILL ON THE MICROBIAL FOOD WEB
11:45 am Walsh, E. J.; Wallace, R. L.: “NO EXIT” — PHYLOGENY OF THE ASPLANCHNIIDAE (ROTIFERA)
2:00 pm Mannino, R. E.: JOHN GILBERT: INFLUENCES ON SCIENCE AND CAREERS
2:15 pm Willmann, C. E.; Leach, D. M.: ROTIFERS AND THE SOLAR BOTTLENECK: DOES UV TOLERANCE PROVIDE SMALL SPECIES WITH A REFUGE FROM PREDATORS?
2:30 pm Jack, J. D.; Sluss, T. D.: POTENTIAL ROLE FOR FOOD LIMITATION IN RIVERINE ZOOPLANKTON COMMUNITIES
2:45 pm Bursk, R. L.: CUES, CUES AND MORE CUES: DAPHNIA SWIM AWAY FROM CHAOBORUS, CRUSHED-UP CONSPECIFICS AND PELAGIC LAKE WATER CHEMICAL CUES
3:00 pm Hampton, S. E.: ENVIRONMENT-SPECIFIC PREDATION RISK AND DIEL HABITAT PARTITIONING BY THE INTRAGUILD PREDATORS NOTONECTA ET BUENOA IN MACROPHYTE-DOMINATED AND OPEN WATER
3:45 pm Gonzalez, M. J.; Paul, D. W.; Pollard, A. I.; Vanni, M. J.: EFFECTS OF PREDATION BY LARVAL GIZZARD SHAD (DOROSOMA CEPEDIANUM) ON RESERVOIR ZOOPLANKTON COMMUNITIES
4:00 pm Schroeder, T.; Gilbert, J. J.: INTRA- AND INTERSPECIFIC VARIATION OF DELAYED MIXIS IN MONOGONONT ROTIFERS
4:15 pm Noble, S. J.; Gonzalez, M. J.; Piechocinski, N. C.; Giahoft, S. P.: EFFECTS OF STORM EVENTS ON RESERVOIR ROTIFER POPULATION DYNAMICS
4:30 pm Fradkin, S. C.; Meyer, J.: LIMNOLOGY OF LAKE CRESCENT, WA
4:45 pm MacIsaac, H. J.: CHANGES IN ZOOPLANKTON COMMUNITY COMPOSITION MEDIATED BY NONINDIGENOUS SPECIES

SS2.03: The Evolution, Ecology and Biogeochemical Impacts of Plankton from the Paleozoic to the Present

Chair(s): Elena Litchman, litchman@imcs.rutgers.edu
Antonieta Quigg, aquigg@imcs.rutgers.edu
Location: 250 AB
10:45 am Falkowski, P.: THE EVOLUTION OF MARINE PHYTOPLANKTON IN THE PHANAEROZOIC OCEANS: FROM DINOSAURS TO DIATOMS
11:15 am Young, J. R.; Bown, P. R.; Medlin, L.; Probert, I.; Saez, A.; van Lenning, K.: COCCOLITHOPHORE PHYLOGENY - NEW PERSPECTIVES ON THEIR INITIAL RADIATION AND THE NEAR-EXTINCTION AT THE K/T BOUNDARY
11:30 am Sunda, W. G.; Bucicrelli, E.: INFLUENCE OF NITROGEN LIMITATION ON ALGAL DMS DYNAMICS: CLIMATIC FEEDBACK IMPLICATIONS
11:45 am De La Rocha, C. L.; Passow, U.: THE ADVANTAGES OF SILICON LIMITATION
2:00 pm Milligan, A. J.; Varela, D. E.; Brzezinski, M. A.; Morel, F. M.: DYNAMICS OF SILICON METABOLISM AND 30SI DISCRIMINATION IN A MARINE DIATOM AS A FUNCTION OF PCO2
2:15 pm Walter, A.; Raven, J. A.: EVOLUTION OF SILICIFICATION IN DIATOMS: AN EPIDEMIOLOGICAL ROLE FOR THE FRUSTULE
2:30 pm Daum, S. P.; Darim, H. G.: POTENTIAL EVOLUTION AND FITNESS RESPONSE OF MARINE CEPHALOPOD POPULATIONS IN THE PRESENCE OF TOXIC DINOFLAGELLATES

(*) represents Invited presentations
SS3.01: Emergent Properties of Complex Aquatic Ecosystems: A Macroecological Perspective

Chair(s): Andrea Belgrano, belgrano@unr.edu
Location: 151 G

10:45 am Gillooly, J. F.; Brown, J. H.; Savage, J. V.; West, G. B.: THE PRIMARY DRIVERS IN AQUATIC ECO SYSTEMS? BODY SIZE, TEMPERATURE AND STOICHIOMETRY

11:15 am U. W. K.: MACROECOLOGICAL PATTERNS OF PHYTOPLANKTON IN THE NORTH-WESTERN NORTH ATLANTIC OCEAN

11:30 am Finkel, Z. V.; Irvin, A. J.; Falkowski, P. G.; Schofield, O.: EFFECT OF RESOURCE LIMITATION ON THE 3/4 SIZE SCALING OF METABOLIC RATES

11:45 am Belgrano, A.; Allen, A. P.; Enquist, B. J.; Gillooly, J. F.: ALLOMETRIC SCALING OF MAXIMUM POPULATION DENSITY: A COMMON RULE FOR MARINE PHYTOPLANKTON AND TERRESTRIAL PLANTS

2:00 pm Forget, M. H.; Va, C.; Carignan, R.; Hudon, C.; Sathyendranath, S.; Platt, T.; Blais, A. M.: PHOTOSYNTHETIC PARAMETERS ESTIMATIONS USING DAILY WATERCOLUMN PRODUCTION IN DIFFERENT AQUATIC SYSTEMS

2:15 pm Stenseth, N. C.: ECOLOGY AND CLIMATE – SOME PATTERNS AND CONSIDERATIONS RELATING TO MODELING CLIMATICALLY FORCING ON ECOLOGICAL PROCESSES

2:30 pm Hillebrand, H.: REGIONAL VERSUS LOCAL CONTROL OF AQUATIC BIODIVERSITY

2:45 pm Dunne, J. A.; Williams, R. J.; Martinez, N. D.: NETWORK STRUCTURE AND THE ROBUSTNESS OF AQUATIC FOOD WEBS TO SPECIES LOSS

3:00 pm Xenopoulos, M. A.; Lodge, D. M.: SPECIES-AREA RELATIONSHIPS FOR FRESHWATER FISH AT DIFFERENT SPATIAL SCALES


3:45 pm Vassolo, S. V.; Panish, J. K.; Grunbaum, D.: EMERGENT PROPERTIES OF FISH SCHOOLS: COMPARISON OF EXPERIMENTAL AND THEORETICAL RESULTS

4:00 pm Lenz, P. H.; Hartline, D. K.: AN ADAPTATION OF THE NERVOUS SYSTEM CONTRIBUTING TO HABITAT PARTITIONING BY CALANOID COPEPODS

4:15 pm Hansen, C. M. E.; Tolotti, M.; Ettinger, R.; Tait, D.; Thies, H.; Psenner, R.: GEOGRAPHIC INFORMATION TECHNIQUES FOR DATA SYNTHESIS FROM REMOTE HIGH MOUNTAIN LAKES IN EUROPE

4:30 pm Evans, D. W.; Thomas, D. N.; Williams, J. P.; Bowers, D. G.: MULTIVARIATE TECHNIQUES TO ACCURATELY CHARACTERISE CATCHMENTS

4:45 pm Gresswell, R. E.; Torgersen, C. E.; Bateman, D. S.: PATTERNS OF FISH DISTRIBUTION AT THE WATERSHED SCALE

SS3.02: Terrigenous Subsidies in Freshwater and Marine Systems

Chair(s): Bopi Biddanda, biddanda@gsu.edu
Jim Cotner, cotne002@tc.umn.edu
Location: 251 DE

10:45 am Benner, R.; Hennes, P.: ORIGINS, TRANSFORMATIONS AND FATES OF TERRIGENOUS DOM IN THE OCEAN

11:15 am Cole, J. J.; Caraco, N. F.: TERRIGENOUS SUBSIDY TO ECO SYSTEM RESPIRATION IN A LARGE RIVER

11:30 am Amon, R. M.; Meon, B.; Budeus, G.; Benner, R.: ORIGINS, TRANSFORMATIONS AND FATES OF TERRIGENOUS DOM IN THE OCEAN

11:45 am Lin, S.; Lin, I.; Wang, C.: DISTRIBUTION AND CONTROLS OF ORGANIC CARBON C-13 IN THE YANGTZE RIVER DELTA AND EAST CHINA SEA CONTINENTAL SHELF SEDIMENTS

2:00 pm Mean, R. N.; Xu, Y.; Chong, J. T.; Jaffe, R.: CALIBRATION OF AN N-ALKANE PROXY FOR TRACING ORGANIC MATTER INPUTS TO WETLAND AND ESTUARINE SEDIMENTS/SOILS.

2:15 pm Pace, M. L.; Cole, J. J.; Carpenter, S. R.; Van De Bogert, M.; Bade, D. L.: SIGNIFICANT TERRESTRIAL CARBON CONTRIBUTION TO LAKE POC AND DAPHNIA REVEALED BY WHOLE-LAKE CARBON-13 ADDITIONS

2:30 pm Hoag, M. J.; Vanni, M. J.: PHYTOPLANKTON AND NUTRIENT RESPONSES TO ADITIONS OF NITRATE OR AMMONIA IN RESERVOIRS ALONG A LAND USE GRADIENT

2:45 pm Appko, J. K.; delGiorgio, P. A.: DOM QUALITY MAY MEDIATE THE EFFECT OF NUTRIENT ENRICHMENT ON BACTERIOPLANKTON COMMUNITY METABOLISM IN FRESH AND SALTWATER DOMINATED TIDAL CREEKS

3:00 pm Romanuk, T. N.; Levings, C. D.: CASCADING EFFECTS OF REMOVAL OF MARINE SUPRALITTORAL VEGETATION ON ARTHROPOD COMMUNITIES AND JUVENILE SALMONIDS

3:15 pm Colman, J. A.; Masterson, J. P.; Portnoy, J. W.; Lee, K.: USE OF 3-D SOLUTE TRANSPORT MODELING TO ESTIMATE GROUND-WATER NITROGEN LOADS TO A COASTAL EMBAYMENT OF THE CAPE COD NATIONAL SEASHORE, USA

(*) represents Tutorial presentations
The Earth's Eyes: Aquatic Sciences Through Space and Time

Program

Monday, March 28, 2000

SS3.03: Landscape Ecology and Environmental Grain from a Microbial Perspective

Chair(s): Paul Kemp, paul.kemp@stonybrook.edu
Josephine Aller, jyaller@notes.cc.sunysb.edu

Location: 151 DEF

10:45 am Lau, W.; Armbrust, E. V.: MONITORING BACTERIAL RESPONSE TO PHYTOPLANKTON-EXCRETED GLYCOLATE USING MOLECULAR PROBES AND THE ROLE OF GLYCOLATE IN INFLUENCING BACTERIAL COMMUNITY STRUCTURE

11:00 am Longnecker, K.; Sherr, E. B.; Sherr, B. F.: SPATIAL VARIABILITY ACROSS THE OREGON UPWELLING SYSTEM IN BACTERIAL CELL-SPECIFIC LEUCINE INCORPORATION RATES

11:15 am Kemp, R. E.: BACTERIAL TELECOMMUNITIES AND ENVIRONMENTAL GRAIN

11:30 am Siegel, D. A.; Longston, B. E.; Brzezinski, M. A.: POPULATION DYNAMICS OF MICROBES IN A DISCRETE WORLD: DIRECT NUMERICAL SIMULATIONS OF PHYTOPLANKTON COMPETITION

SS3.06: Landscape Context of Ultraviolet Radiation Effects on Aquatic Ecosystems

Chair(s): Wendy Palen, wpalen@u.washington.edu
Sandra Cooke, sac6@lehigh.edu

Location: 151 ABC

10:45 am Williamson, C. E.: CONTROL OF UNDERWATER UV AND TEMPERATURE ENvironments IN LAKES AND RIVERS: THE IMPORTANTIANCE OF LANDSCAPE LINKAGES

11:15 am Osburn, C. L.; Saros, J. E.; Morris, D. P.; Boyd, T. J.: PHOTOREACTIVITY OF CHROMOPHORIC DISSOLVED ORGANIC MATTER (CDOM) IN NATURAL WATERS

11:30 am Diamond, S. A.; Arndt, G. T.; Tietje, J. E.; Peterson, G. S.: RISK ASSESSMENT FOR THE EFFECTS OF SOLAR RADIATION ON AMPHIBIANS

11:45 am Ochs, C. A.; Ogbebo, F. E.: INTERACTIONS OF BACTERIA AND PHYTOPLANKTON UNDER VARYING CONDITIONS OF NUTRIENTS AND SUNLIGHT

12:00 pm Moeller, R. E.; Hargreaves, B. R.; Morris, D. P.; Williamson, C. E.: SEASONAL, YEAR-TO-YEAR AND LONG TERM CONTROLS OF UV ATTENUATION IN TWO MID-LATITUDE LAKES OF CONTRASTING WETLAND DRAINAGE AND DISSOLVED ORGANIC CARBON CONTENT

12:15 pm Clark, M. A.; Gragg, R.; Cherrier, J.; Chanton, J.: DETERMINATION OF THE IMPACT OF ULTRAVIOLET RADIATION COMETABOLISM AND BIOAUGMENTATION ON THE DEGRADATION OF PETROLEUM BY MARINE BACTERIA

SS3.09: Cross-system Comparison of Sources, Composition, and Reactivity of DON

Chair(s): Margie Mulholland, mmulholl@odu.edu
Deborah Bronk, bronk@vims.edu

Location: 150 DEF

10:45 am McCarthy, M. D.: WHAT IS DISSOLVED ORGANIC NITROGEN

11:00 am Bronk, D. A.: METHODS TO MEASURE DISSOLVED ORGANIC NITROGEN CONCENTRATIONS AND FLUX RATES: THE GOOD, THE BAD, AND THE UGLY

11:15 am Steinberg, D. K.: THE ROLE OF GRAZERS IN THE PRODUCTION OF DON

11:30 am Lewis, A. J.: USE OF DISSOLVED ORGANIC MATTER BY PHYTOPLANKTON

11:45 am Parker, A. E.: DIRECT MEASUREMENT OF CARBON AND NITROGEN CYCLING WITHIN THE ESTUARINE MICROBIAL LOOP

2:00 pm Somerfield, K.; Berges, A.; Savidge, G.; Preston, T.: THE IMPORTANCE OF DISSOLVED ORGANIC NITROGEN IN MACROALGAL DOMINATED COASTAL ECOSYSTEMS

(*) represents Invited presentations
2:15 pm  Guldberg, L. B.; Finster, K.; Jørgensen, N. O.; Middelboe, M.; Lomstein, B.: UTILIZATION OF MARINE SEDIMENTARY DISSOLVED ORGANIC NITROGEN BY NATIVE ANAEROBIC BACTERIA

2:30 pm  Pantoja, S.; Rossel, P.; Castro, R.; Quevauviller, L. A.; Daneri, G.: HIGH MICROBIAL DEGRADATION RATES OF LABILE DISSOLVED ORGANIC MATTER IN OXYGEN DEPLETED WATERS


3:00 pm  Hopkinson, C. S.; Vallino, J. J.: STOICHIOMETRY OF OCEANIC DOM POOLS AND DOM DECOMPOSITION

3:45 pm  See, J. H.; Bronk, D. A.: C:N STOICHIOMETRY OF ESTUARINE HUMIC SUBSTANCES

4:00 pm  Seitzinger, S. P.; Hartnett, H.; Spyres, G.; Wiegner, T.: FROM TREES TO SEAS: A CROSS SYSTEM COMPARISON OF DON COMPOSITION AND LABILITY


2:00 pm  Carey, E. A.; Taillefert, M.: THE ROLE OF SOLUBLE Fe(III) IN THE FORMATION OF FES AND FES2 IN SHALLOW SALTMARSH SEDIMENTS FROM SKIDAWAY ISLAND, GEORGIA, USA

2:15 pm  Waldbusscher, G. G.; Mannelli, R. L.; Whitlatch, R. B.; Visscher, P. T.: DIVERSITY OF DEPOSIT FEEDERS AND BENTHIC METABOLISM: NONLINEAR EFFECTS

2:30 pm  Decho, A. W.: ROLE OF EPS MATRIX ON ENZYME STABILITY, PHOTOREACTIVITY AND CYCLING OF DOC WITHIN BIOFILMS

2:45 pm  Torgersen, T.; Bean, J. R.; Branco, B. F.; Auer, S.: BLOOM COUPLING WITH THE BIOLOGICAL, CHEMICAL AND PHYSICAL DYNAMICS OF A SMALL POND OBSERVED WITH AN IN SITU PROFILER


3:15 pm  Roden, E. E.: CONTROL OF IRON REDOX CYCLING IN FRESHWATER WETLAND SEDIMENTS BY MICROSCALE Fe(III)-O2 REACTION DYNAMICS AT THE SEDIMENT WATER INTERFACE

3:45 pm  Bendell-Young, L.; CONTRIBUTION OF INTERSTITIAL DISSOLVED Fe AND Mn CONCENTRATIONS TO SURFICIAL SEDIMENT GEOCHEMISTRY: A CROSS ECOSYSTEM COMPARISON

4:00 pm  Sansone, F. L.; Rothchild, C.; Silver, M. W.; Graham, A. W.: ORGANIC MATTER CYCLING IN MID-WATER SUSPENDED PARTICLE LAYERS, MONTEREY BAY, CALIFORNIA

4:15 pm  Dedieu, K.; Rabouille, C.; Bomble, B.: DISTRIBUTION AND DYNAMICS OF OXYGEN IN COASTAL SEDIMENTS: STUDY BY IN SITU MICRO-ELECTRODES

4:30 pm  Neuhuber, S.; Taillefert, M.: HIGH RESOLUTION IN SITU MEASUREMENTS AND SPECIATION OF REDOX CHEMICAL SPECIES DURING A TIDAL CYCLE IN SALTMARSH SEDIMENTS

4:45 pm  Fortin, C.; Denison, F. H.; Garnier-Laplace, J.: URANIUM BIOAVAILABILITY: INFLUENCE OF CALCIUM, MAGNESIUM AND HYDRONIUM IONS IN UPTAKE BY A GREEN ALGA

5:00 pm  Kostka, J. E.; Dollhopf, S. L.; Smith, A. C.; Adams, H.; Hyun, J.: INFLUENCE OF MACROBENTHOS ON BIOGEOCHEMICAL PROCESSES FROM THE MICRO- TO THE MACROSCALE: COUPLING OF THE IRON AND NITROGEN CYCLES IN SALTMARSH SEDIMENTS

SS4.08: Life in Ice

Chair(s): Jody W. Deming, jdeming@u.washington.edu

Location: 251 C

10:45 am  Eicken, H.: AN OVERVIEW OF PHYSICO-CHEMICAL AND GEO-PHYSICAL CONSTRAINTS ON MICROBIAL LIFE IN FROZEN ENVIRONMENTS

11:15 am  Priscu, J. C.; Christner, B. C.; Foreman, C. M.; Mikucki, J. A.; Veytek, M. A.; Wolf, C. F.: EARTH’S ICY BIOSPHERE

11:30 am  Stewart, F. J.; Fritsen, C. H.; Murray, A. E.; Carter, B. J.: PROKARYOTIC DIVERSITY IN ANTARCTIC SEA ICE: INTER-HABITAT VARIABILITY


2:00 pm  Antigo, K. R.: UV PHOTOPROTECTION BY ANTARCTIC SEA ICE MICROALGAE

2:15 pm  Pinkmeyer, R.: DEGRADATION OF DIMETHYL SULFIDE AND DIBROMOMETHANE BY BACTERIA IN ARCTIC PACK ICE

2:30 pm  Kemps, B.; Deming, J. W.; Eicken, H.: EXOPOLYMERIC SUBSTANCES, AN IMPORTANT COMPONENT OF MICROBIAL LIFE IN SEA ICE AT LOW TEMPERATURES

2:45 pm  Meiners, K.: DISTRIBUTION OF EXOPOLYMERIC PARTICLES IN ARCTIC AND ANTARCTIC SEA ICE

3:00 pm  Mueller, D. R.: Vincent, W. F.: MICROBIAL HABITAT CHARACTERISTICS OF A HIGH ARCTIC ICE SHELF ECOSYSTEM

(*) represents Tutorial presentations
Tuesday, February 11, 2003

**CS04: Bacteria**

Chair(s): Melissa Booth, booth@skio.peachnet.edu  
Location: 251 C

11:00 am Booth, M. G.; Bronk, D. A.; Allen, A. E.; Sanderson, M. P.; Venzy, P. G.; Frischer, M. E.: FACTORS REGULATING ASSIMILATORY NITRATE REDUCTASE (NASA) EXPRESSION IN MARINE BACTERIAL COMMUNITIES DETECTED BY DUAL MOLECULAR AND PHYSIOCHEMICAL APPROACHES


11:30 am Ludwig, R.; Jonkers, H. M.; Al-Horani, F. A.; de Beer, D.: EVIDENCE THAT CALCIFICATION IN A HYPERSALINE MAT IS PHOTOSYNTHESIS CONTROLLED

11:45 am Schultz, G. E.; Santschi, P. H.: IDENTIFICATION OF QUORUM-SENSING SYSTEMS IN FREE-LIVING BACTERIAL COMMUNITIES IN A MARINE ENVIRONMENT

12:00 pm Williamson, S. J.; Paul, J. H.: INORGANIC NUTRIENT STIMULATION OF LYTIC PHAGE PRODUCTION BY GULF OF MEXICO BACTERIAL POPULATIONS

**CS11: Continental Shelf Processes**

Chair(s): Solveig Buehring, sbuehrin@mpi-bremen.de  
Location: 250 DE

4:00 pm Ehrenhauss, S.; Witte, U.; Buehring, S. I.; Janssen, F.; Huebelt, M.: THE FATE OF PLANKTONIC DIATOMS IN PERMEABLE SEDIMENTS

4:15 pm Buehring, S. I.; Witte, U.; Ehrenhauss, S.; Kamp, A.: MICROBIAL AND GEOCHEMICAL TRANSFORMATIONS OF ALGAL MATTER ON PERMEABLE SEDIMENTS

4:30 pm Huebelt, M. H.; Precht, E.; Franke, U.: SEDIMENT-WATER SOLUTE EXCHANGE CAUSED BY SURFACE GRAVITY WAVES

4:45 pm Sackmann, B. S.; Perry, M. J.: CLUSTER ANALYSIS OF OCEAN COLOR REMOTE SENSING REFLECTANCE OFF THE WASHINGTON COAST, USA: DEVELOPING SPECTRAL SIGNATURES TO AID FEATURE EXTRACTION AND TRACKING

5:00 pm O'Donnell, J.; Houk, A.: THE STRUCTURE AND VARIABILITY OF THE LONG/BLOCK ISLAND SOUND OUTFLOW PLUME

**CS12: Coral Reefs**

Chair(s): Allison Beauregard, isopodi@udel.edu  
Location: 251 AB

9:30 am Beauregard, A. Y.: EXTENSIVE DOC PRODUCTION BY CORAL-ZOOXANTHELLAE SYMBIOSES

9:45 am Haught, K. J.; Muehlstein, L. K.: INFLUENCE OF A TROPICAL ALGAL OVERGROWTH ON LOCAL REEF FISH ASSEMBLAGE STRUCTURE

10:00 am Koehl, M. A.; Hadfield, M. G.: DISSOLVED CHEMICAL CUES CAN AFFECT THE RETENTION OF BENTHIC LARVAE WITHIN CORAL REEFS AND LARVAL ATTACHMENT TO REEF SURFACES

10:15 am O'Donnell, J.; Houk, A.: Mesoamerican Barrier Reef Coral Disease Characterization

10:30 am Muehlstein, L. K.; Beets, J. P.: STORM DISTURBANCE DECOUPLES THE LINKAGE BETWEEN TROPICAL MARINE ECOSYSTEMS

**CS16: Harmful Algal Blooms**

Chair(s): Tammi Richardson, tammi@ocean.tamu.edu; Andrew Juhl, juhl.andy@epa.gov  
Location: 251 DE

9:30 am Etheridge, S. M.; Roesler, C. S.: TEMPORAL VARIATIONS IN OPTICAL PROPERTIES AND COMMUNITY STRUCTURE DURING A LONG ISLAND, NY BROWN TIDE COMPARED TO AN ADJACENT EMBAYMENT

9:45 am Juhl, A. R.: THE RED-TIDE DINOFLAGELLATE, ALEXANDRIUM MONILATUM, SUPPRESSES GROWTH OF MIXED, NATURAL PHYTOPLANKTON.

10:00 am Love, B. C.; Loder, T. C.: ALEXANDRIUM SPP. POPULATION AND NUTRIENT DYNAMICS IN THE WESTERN GULF OF MAIN


10:30 am Beare, R. N.; Grunbaum, D.; Cattolico, R. A.: SWIMMING BEHAVIOR OF HETEROSIGMA AKASHIWO: VARIABILITY AMONG STRAINS WITH PARTICULAR REFERENCE TO DIEL VERTICAL MIGRATION

11:00 am Chemier, C. T.; Downing, J. A.: PREDICTING CYANOBACTERIA ABUNDANCE IN NUTRIENT-RICH LAKES

11:15 am Recklait, D. G.; Lohrenz, S. E.; Tuel, M. D.; Nattar, M. J.: GROWTH DYNAMICS OF HARMFUL ALGAL BLOOMS IN FLORIDA GULF OF MEXICO COASTAL WATERS

11:30 am Granelli, E.; Salomon, P.; Gieselson, L. A.: IN SITU GROWTH RATES, CELL-SPECIFIC PHOTOSYNTHESIS AND PARASITE INFECTIONS OF DINOPHYSIS NORVEGICA AND CERATIUM FURCA DURING A DRIFT STUDY IN THE NORTH SEA

11:45 am Richardson, T. L.; Pinckney, J. L.: AN INITIAL ASSESSMENT OF GYROXANTHIN-RADIOLABELING AS A TOOL FOR DETERMINATION OF KARENIA BREVIS CARBON-SPECIFIC GROWTH RATES IN SITU

12:00 pm Legrand, C.; Bengtson, K.; Fistarol, G. O.; Norén, F.; Johansson, M.: ALKALINE PHOSPHATASE PRODUCTION IN DIFFERENT MARINE DINOFLAGELLATES SPECIES – PHOSPHATE LIMITATION OR AN ADAPTIVE STRATEGY?
CS17: Invasive Species & Species Replacement

Chair(s): Kim Schulz, kschulz@syr.edu
Rob Hall, bhall@uwyo.edu

Location: 251 DE


2:45 pm Pichl, R.; Vanderploeg, H. A.; Cavaletto, J. F.; Stara, L.: Ceropagis pengi after three years since invasion to Lake Michigan: changes of population and impact on food web

3:00 pm van Overdijk, C. D.; Duggan, I. C.; Bailey, S. A.; MacIsaac, H. J.: NASTIES IN NOOBIS?: POTENTIAL FOR INTRODUCTION OF INVERTEBRATES TO THE GREAT LAKES FROM RESIDUAL BALLAST WATER

3:15 pm Bailey, S. A.; Duggan, I. C.; van Overdijk, C. D.; MacIsaac, H. J.: SLEEPING STOW-AWAYS! DO RESTING EGGS ON TRANSCOCEANIC VESSELS POSE AN INVASION RISK?

4:00 pm Karatayev, A. Y.; Burlakova, L. E.; Padilla, D. K.: ZEBRA MUSSELS AS ECOSYSTEM ENGINEERS


4:45 pm Costello, J. H.; Gifford, D. J.; Sullivan, B. K.; Van Keuren, D.: SEASONAL CYCLE AND BLOOM INITIATION IN NARRAGANSETT BAY, USA, BY THE LOBATE CTENOPHORE MNIEMOPSIS LEDYI.

5:00 pm Hall, R. Q.; Dybdahl, M. F.; VanderLoop, M. C.: EXTREMELY HIGH SECONDARY PRODUCTION BY EXOTIC NEW ZEALAND MUD SNAILS IN 3 GEOTHERMAL RIVERS

CS35: Trophic Dynamics

Chair(s): Bob Sterner, stern007@umn.edu
Kam Tang, kamtang@vims.edu

Location: 250 C


9:45 am Hudson, J. J.: EFFECTS OF CONSUMERS ON NUTRIENT KINETICS IN PLANKTONIC FOOD WEBS

10:00 am Drazen, J. C.: ENERGY BUDGETS AND FEEDING RATES OF MACRODINID FISHES

10:15 am Bayley, S. E.; Norlin, J. I.: MAINTENANCE OF CLEAR WATER IN BOREAL WETLAND LAKES: THE ROLE OF ZOOPLANKTON, SUBMERSED AQUATIC PLANTS AND NUTRIENTS

10:30 am Yoshiida, T.; Shertzer, K. W.; Elner, S. P.; Heaston, N. G.: EXPERIMENTAL EVIDENCE OF ALGAL EVOLUTION IN A LABORATORY PREDATOR-PREY SYSTEM (BRACHIONUS CALYCOFLORUS - CHLORELLA VULGARIS)

11:00 am Tang, K. W.; Jakobsen, H. H.: GRAZING-INDUCED COLONY ENLARGEMENT IN PHAEOCYSTIS GLOBOSA (FRYMINESIOPHYCEAE)

11:15 am Titel, J.; Bissing, V.; Zippel, B.; Gaedke, U.; Bell, E. M.; Lorke, A.: DEEP CHLOROPHYLL MAXIMA OR SURFACE CHLOROPHYLL MINIMA?

11:30 am Pracnik, R.; Dressmann, S.; Sommer, U.: EFFECTS OF MIXTROPHIC FLAGELLATES ON NUTRIENT ALLOCATION IN MARINE PLANKTONIC FOOD WEBS


12:00 pm Lauber, C. L.; Sinsabaugh, R. L.: REMOVAL OF HUMIC COMPOUNDS INFLUENCES GLYCOISODASE ACTIVITY IN AUTOCHTHONOUS AND ALLOCHTHONOUS DOC SYSTEMS

CS36: Ultraviolet Radiation

Chair(s): Kenia Whitehead, kenia@u.washington.edu

Location: 151 DEF

4:00 pm Jeffrey, W. H.; Kase, J. P.; Pakulski, J. D.: THE EFFECTS OF TEMPERATURE, NUTRIENTS AND GROWTH RATE ON THE RESPONSE TO ULTRAVIOLET RADIATION BY MARINE BACTERIOPLANKTON

4:15 pm Roy, S.; Longhi, M. L.: LACK OF RESPONSE OF BIOMASS AND GROWTH OF PHYTOLANKTON EXPOSED TO ENHANCED UV-B IN MESOCOSM EXPERIMENTS

4:30 pm Longhi, M. L.; Roy, S.: THE INFLUENCE OF THE NUTRITIONAL STATE ON PHYTOPLANKTON RESPONSE TO ENHANCED UV-B AT THREE LATITUDES (CANADA, BRAZIL, ARGENTINA)

4:45 pm Dee, G.; Gerrish, G.; Hesson, M. D.; Williamson, C. E.: DAPHNIA LIFE HISTORY STAGES VARY IN THEIR TOLERANCE TO UV RADIATION

5:00 pm Whitehead, K.; Hedges, J. I.: PHOTODEGRADATION OF MYCOSPORINE-LIKE AMINO ACIDS (MAAS) DISSOLVED IN FRESH AND SEAWATER.

SS1.05: The History and Current Status of Eutrophication in Freshwater and Marine Ecosystems

Chair(s): Val Smith, vemith@ku.edu
Mandy Joyce, rjoye@arches.uga.edu
Robert Howarth, rwh2@cornell.edu

Location: 150 G

9:30 am Howarth, R. W.: COASTAL NITROGEN POLLUTION: TOWARD A NATIONAL STRATEGY FOR THE US.

10:00 am Jones, J. R.; Knolton, M. F.; Perkins, B. D.; Obrecht, D. V.; Thorpe, A. P.; Allen, S. B.: TROPHIC STATE OF MISSOURI RESERVOIRS: AN ANALYSIS OF REGIONAL AND SEASONAL PATTERNS (∗)

(∗) represents Tutorial presentations
The Earth’s Eyes: Aquatic Sciences Through Space and Time

11:00 am  Lathrop, R. C.; Carpenter, S. R.: EUTROPHICATION OF LAKE MENDOTA AND DOWNSTREAM LAKES NEAR MADISON, WISCONSIN


2:45 pm  Joye, S. B.; Weston, N. B.; Moore, W. S.; Porubsky, W. P.: GROUNDWATER AS SOURCE OF NUTRIENTS AND ORGANIC MATTER IN FRESHWATER AND MARINE ECOSYSTEMS

3:15 pm  Foy, R. H.: AGRICULTURE’S PHOSPHORUS TIME-BOMB AND LOUGH NEAGH – CAN DETONATION BE CONTROLLED?

4:00 pm  Martinelli, L. A.; Filoso, S.: THE CURRENT STATUS OF EUTROPHICATION IN FRESHWATER ECOSYSTEMS OF BRAZIL

SS2.02: Lacustrine Hydrology Past and Present: Linking Lakes, Catchments, Atmosphere, and Ocean

Chair(s): Sherilyn C. Fritz, sfritz2@unl.edu

Location: 150 DEF


10:15 am  Lyons, W. B.; Welch, K. A.; Graham, E. Y.; Tegt, S. K.: THE IMPORTANCE OF AEOULIAN TRANSPORT TO THE GEOCHEMISTRY OF MCMURDO DRY VALLEY LAKES, ANTARCTICA

10:30 am  Dean, W. E.; Rosenberry, D. O.; Winter, T. C.: THE SIGNIFICANCE OF GROUND WATER TO THE ACCUMULATION OF IRON AND MANGANESE IN THE SEDIMENTS OF TWO HYDROLOGICALLY DISTINCT LAKES IN NORTH CENTRAL MINNESOTA

11:00 am  Bloom, A. M.; Moser, K. A.; Porinchu, D. F.; MacDonald, G. M.: USING DIATOM-BASED INFERENCe MODELS TO DECIPHER THE PALEOHYDROLOGY OF THE YOUNGER DRYAS IN THE SIERRA NEVADA, CALIFORNIA, USA

11:15 am  McGowan, S.; Hall, R. I.; Leavitt, P. R.: REGULATION OF LAKE STABLE STATES BY HYDROLOGIC VARIABILITY IN CENTRAL NORTH AMERICA: EVIDENCE FROM WHOLE-LAKE EXPERIMENTS


11:45 am  Hamilton, S. K.; Dunn, S. E.; Thoms, M. C.; Davis, L.: PERSISTENCE OF AQUATIC REFUGIA BETWEEN FLOODS IN A SEMI-ARID RIVER SYSTEM (COOPER CREEK, AUSTRALIA): MAJOR SOLUTE AND ISOTOPIC TRACER EVIDENCE

SS2.04: Nitrogen Paleo-Biogeochemistry

Chair(s): Joseph P. Montoya, j.montoya@biology.gatech.edu

Mark A. Altabat, maltabet@umassd.edu

Location: 251 C

9:30 am  Sigman, D. M.: GLACIAL/INTERGLACIAL VARIATIONS IN THE OCEANIC NITROGEN CYCLE: AN OVERVIEW

9:45 am  Altabat, M. A.; Higginson, M. J.; Herbert, T. D.: DECADAL-TO ORBITAL-SCALE LINKS BETWEEN CLIMATE, PRODUCTIVITY AND DENITRIFICATION ON THE PERU MARGIN

10:00 am  Brock, C. S.; Knezacek, N. E.; Graham, M. D.; Leavitt, P. R.: STABLE ISOTOPE EVIDENCE OF NITROGEN SATURATION IN RIVERINE LAKE ECOSYSTEMS BY 75 YEARS OF URBAN EFFLUENT.

10:15 am  Elliott, E. M.; Brush, G. S.: DO NITROGEN ISOTOPES OF SEDIMENTED ORGANIC NITROGEN RECORD HISTORICAL CHANGES IN NITROGEN SOURCES TO WETLANDS?


SS2.05: Geologic Record of Phosphorus Cycling

Chair(s): Ellory Ingall, ingall@eas.gatech.edu

Caroline Slomp, slomp@geo.uu.nl

Location: 251 C

2:15 pm  Colman, A. S.: TEMPORAL VARIABILITY IN THE MARINE PHOSPHORUS CYCLE

2:45 pm  Wollmann, K.: CONTROLS ON MARINE PRODUCTIVITY AND NUTRIENT INVENTORIES: A MODEL PERSPECTIVE

3:00 pm  Carde-Merun, B. J.; Paytan, A.; McLaughlin, K.: THE CHEMICAL NATURE OF ORGANIC PHOSPHORUS IN SETTLING OCEAN PARTICULATE MATTER

3:15 pm  Ingall, E. D.: ROLE OF MANGANESE IN REDOX DEPENDENT PHOSPHORUS CYCLING

4:00 pm  Kokwutl, L. C.; Ingall, E. D.: THE MARINE PHOSPHORUS CYCLE: A REVISED BUDGET

4:15 pm  Slomp, C. P.; Van Cappellen, P.: THE GLOBAL MARINE PHOSPHORUS CYCLE: RESPONSE TO OCEAN ANOXIA AND SEA LEVEL RISE

(*) represents Invited presentations
### SS3.04: The Biogeochemistry of Hg from Watershed to the Global Scale: A Tribute to the Contributions of W.F. Fitzgerald

**Chair(s):** W. Berry Lyons, lyons.142@osu.edu  
Rob Mason, mason@cbl.umces.edu  

**Location:** 250 AB  

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<tr>
<th>Time</th>
<th>Speaker(s)</th>
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<tr>
<td>4:00 pm</td>
<td>Benoit, J. M.; Mason, R. P.; Gill, G. A.; Lyons, W. B.:</td>
<td>A Legacy of Inquiry: Insight into Bill Fitzgerald's Contributions to the Field of Mercury Biogeochemistry from Students and Colleagues</td>
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<tr>
<td>5:00 pm</td>
<td>Mason, R. P.; Laurier, F.; Whalin, L.:</td>
<td>The Ocean and the Global Mercury Cycle</td>
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### SS3.08: Organic Matter in Aquatic Systems: Sources, Characterization, Distribution, and Quantification

**Chair(s):** Juanita Urban-Rich, juanita.urban-rich@umb.edu  
Rob Mason, mason@cbl.umces.edu  

**Location:** 151 G  

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<tr>
<td>9:30 am</td>
<td>Aiken, G. B.:</td>
<td>Sources and Transformation of Dissolved Organic Matter in Aquatic Systems</td>
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<tr>
<td>10:00 am</td>
<td>Nakata, T.:</td>
<td>Kirkman, D. L.: Dissolved Organic Matter Derived from Bacteria: Turnover, Transformation and Storage</td>
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<tr>
<td>11:00 am</td>
<td>Simard, P.:</td>
<td>Ingall, E. D.:</td>
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<tr>
<td>11:15 am</td>
<td>Heilburn, C.; Cherrier, J.; Chanton, J. P.; Gragg, R.:</td>
<td>Tracing in Situ Petroleum Hydrocarbon Utilization Using Natural Carbon Isotope Abundances</td>
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<tr>
<td>11:30 am</td>
<td>Behzad Mortazavi, B.:</td>
<td>Jeff Chanton, J. P.:</td>
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<tr>
<td>12:00 pm</td>
<td>Goldthwait, S. A.:</td>
<td>Carlson, C. A.; Aldredge, A. L.; Henderson, G. K.:</td>
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### SS3.11: Ecology and Management of the Riparian Habitat of Lakes

**Chair(s):** Mark Scheuerell, scheuerell@u.washington.edu  
Daniel Schindler, deschind@washington.edu  

**Location:** 150 DEF  

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<th>Time</th>
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<tr>
<td>2:15 pm</td>
<td>Gardner, B.:</td>
<td>Chen, R. F.:</td>
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<td>2:30 pm</td>
<td>McKnight, D. M.; Fulton, J. R.; Foreman, C. M.; Cory, R. M.:</td>
<td>Changes in Fulvic Acid Redox State Through the Oxyclines of a Permanently Ice-Covered Antarctic Lake</td>
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<td>2:45 pm</td>
<td>Stedmon, C. A.; Markager, S.:</td>
<td>Seasonal and Spatial Variability in the Composition of Dissolved Organic Matter in a Temperate Catchment and Estuary</td>
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<tr>
<td>3:00 pm</td>
<td>Soves, G.; Seitzinger, S.; Hartnett, H.; Lauck, R.:</td>
<td>The Chemical Signature and Bioavailability of Dissolved Organic Matter in Urban and Rural Rainwater</td>
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*~ represents Tutorial presentations*
SS3.12: 
Trophic Focusing and Subsidy in Aquatic Ecosystems
Chair(s): Amatzia Gerin, amatzia@vms.huji.ac.il
Mark Benfield, mbenfield@lsu.edu
Location: 251 AB
11:00 am Scheuereell, M. D.; Moore, J. W.; Schindler, D. E.: 
DIFFERENTIAL IMPACTS OF ANADROMOUS SALMON ON RESIDENT STREAM FISHES IN SW ALASKA
11:15 am Keenan, S. E.; Benfield, M. C.: ZOOPLANKTON IN PROXIMITY TO OFFSHORE PETROLEUM PLATFORMS: A POTENTIALLY ENHANCED FEEDING ENVIRONMENT FOR STRUCTURE-ASSOCIATED PELAGIC FISH?
11:45 am Vanderplage, H. A.; Johengen, T. H.; Lavrentyev, P. J.; Lang, G. A.; Liebig, J. R.; Chen, C.; Bundy, M. H.; Cavaletto, J. F.; Edie, B. J.; FRONTS AND PLUMES AS ORGANIZERS OF SPATIAL DISTRIBUTION OF NUTRIENTS AND PLANKTON IN LAKE MICHIGAN: CONSEQUENCES TO THE FOOD WEB
12:00 pm Romare, P.; Berg, S.; Lauridsen, T. L.; Jeppesen, E.: SPATIAL AND TEMPORAL DISTRIBUTION OF FISH AND ZOOPLANKTON IN A SHALLOW LAKE
2:15 pm Sutor, M.; Cowles, T. J.; Koso, P. M.: CONCURRENT FINESCALE VERTICAL MEASUREMENTS OF PHYTOPLANKTON, ZOOPLANKTON, AND PHYSICAL PARAMETERS IN THE OREGON UPWELLING SYSTEM
2:30 pm Fisher, K. E.: REPRESENTING OBSERVED PLANKTON PATHWORKS IN MODEL INPUT FIELDS
2:45 pm Taylor, L. E.; Abello, H. U.; Sholitto, S. M.; Jumars, P. A.; Greenlaw, C. F.: MODULATION BY TIDES AND IRRADIANCE OF EMERGENCE IN A COASTAL AND ESTUARINE MYSID
3:00 pm Dehl, L.: INTERMEDIATE-SCALE DISTRIBUTION PATTERNS OF FISH LARVAE S211: SPATIAL AND TEMPORAL VARIABILITY
3:15 pm Grünbaum, D.; Strathmann, R. R.: DO BILATERAL LARVAL MORPHOLOGIES EXPLOIT TURBULENT EDDIES FOR VERTICAL TRANSPORT?
4:00 pm Curtis, K. A.: BUOYANCY AND VERTICAL DISTRIBUTION OF SARDINE AND ANCHOVY EGGS
4:30 pm Bochdansky, A. B.; Bollens, S. M.: EFFECTS OF SPATIAL HETEROGENEITY OF FOOD ON THE BEHAVIOR, FEEDING AND REPRODUCTION OF THE COPEPOD ACARTIURA SP.

SS3.13: 
Advances in Understanding Estuarine Ecosystems From Real-Time Remote Monitoring Data
Chair(s): Howard Glasgow, howard_glasgow@ncsu.edu
Robert Magnien, rmagnien@dnr.state.md.us
Location: 250 DE
10:00 am Kelly, V.: Gilchrist, P. M.; Codispoti, L. A.; Cooper, E. R.; Alexander, J. A.: AUTONOMOUS NUTRIENT SAMPLERS HELP DEFINE HIGHER FREQUENCY NUTRIENT VARIBALITY IN TRIBUTARIES OF CHESAPEAKE BAY, USA(*)
10:15 am Shoven, W. J.; Usry, B.; DeMaster, D. J.: RIVERNET: A HIGH RESOLUTION WATER QUALITY MONITORING PROGRAM IN THE NEUSE RIVER BASIN, NORTH CAROLINA(*)
10:30 am Traylor, T. H.; Bendis, B. J.; Steidinger, K. A.: REAL-TIME REMOTE WATER QUALITY MONITORING IN THE ST. JOHNS RIVER, FLORIDA(*)
11:00 am Reed, R. E.; Glasgow, H. B.; Toms, D. C.; Kinder, C. A.; Burkholder, J. M.: COMPARISON OF HIGH RESOLUTION DATA WITH PREDICTIONS BY THE EPIC/WASP MODEL: NEUSE RIVER MONITORING PROJECT, NORTH CAROLINA(*)
11:15 am Magnien, R. E.; Michael, B. D.; Trice, M.; Boynton, W. R.; Stankelis, R. M.: A SPATIALLY AND TEMPORALLY INTENSIVE HABITAT MONITORING NETWORK FOR CHESAPEAKE BAY(*)
11:30 am Springer, J. J.; Glasgow, H. B.; Reed, R. E.; Burkholder, J. M.: UTILIZATION OF A REAL-TIME REMOTE MONITORING NETWORK TO CHARACTERIZE A SEASONAL DINOFLAGELLATE BLOOM IN THE NEUSE ESTUARY(*)
12:00 pm Bohlen, W. F.; Howard-Strobel, M. M.; Cohen, D. C.: A TIME SERIES TOUR OF ESTUARINE SEDIMENTATION(*)
12:15 pm Saarman, E.; Deacutis, C. F.; Murray, D.; Prell, W.: SPATIAL DISTRIBUTION OF MID-DEPTH HYPOMIC WATERS IN A PARTIALLY-MIXED ESTUARY, NARRAGANSETT BAY IN SUMMER 2001(*)

(*) represents Invited presentations
TUESDAY

2:30 pm  Berman, M. S.; Oviatt, C.; Melrose, D. C.: HYPOXIC CONDITIONS IN NARRAGANSETT BAY, SUMMER 2001, DETERMINED USING A NUSHUTTLE SAMPLING PLATFORM

2:45 pm  Kester, D. R.; Bergondo, D. L.; Woods, W. L.: PROCESSES ASSOCIATED WITH EPISODIC HYPOXIA IN NARRAGANSETT BAY, RHODE ISLAND, DURING SUMMER 2001 DERIVED FROM REMOTE AUTOMATED TIME-SERIES MEASUREMENTS

SS3.14: Novel Approaches to Modeling Food Web and Ecosystem Biogeochemistry

Chair(s): Joe Vallino, jvallino@mbl.edu
Location: 250 C
4:00 pm  Arendt, S.; Hillebrand, H.; Cury, P.: ARBITRARY PARAMETERS IN NOUVEAU: A META-ANALYSIS OF NPZ-TYPE AQUATIC ECOSYSTEMS MODELS

4:15 pm  Williams, D. W.; Hitz, C. D.; Thomas, D. N.; Blowers, D. G.: OBSERVATIONS OF OSCILLATIONS IN PLANKTON COMMUNITY METABOLISM

4:30 pm  Edwards, A. M.; Platt, T.; Sathyendranath, S.: THE OCEANIC HIGH-NUTRIENT, LOW-CHLOROPHYLL REGIME: LIMITS ON BIOMASS AND NITRATE BEFORE AND AFTER IRON FERTILIZATION

4:45 pm  Williams, P. J.; Evans, D. W.; Pritchard, I. D.; Thomas, D. N.; Bowers, D. G.: OBSERVATIONS OF OSCILLATIONS IN PLANKTON COMMUNITY METABOLISM

5:00 pm  Lopes, R. M.; Dam, H. G.; McManus, G. B.; Gaeta, S. A.; Rosetta, C.; Collin, S. P.; Smith, A. N.; Haley, S. T.: PLANKTONIC TROPHIC CASCADES IN THE SOUTHERN BRAZILIAN BIGHT

SS4.03: What is Special About Food Webs in Extreme Environments?

Chair(s): Ursula Gaedike, gaedike@rz.uni-potsdam.de
Jorg Tittel, tittel@gm.ufz.de
Guntram Welthoff
Elanor Bell, ebell@rz.uni-potsdam.de
Location: 250 C
2:15 pm  Garstecki, T.; Newsham, K. K.: DIVERSITY-STABILITY RELATIONSHIPS IN FRESHWATER MICROBIAL FOOD WEBS FROM THE MARITIME ANTARCTIC

2:30 pm  Kamjunke, N.; Gaedke, U.: TRUNCATED ENERGY FLOW IN THE PELAGIC FOOD WEB OF AN EXTREMELY ANOXIC LAKE

2:45 pm  Zippel, B.: WHO IS THE WINNER? - PLANKTON FOOD WEB DYNAMICS IN AN ACIDIC MINING LAKE INFLUENCED BY WIND-INDUCED MIXING EVENTS

3:00 pm  Breitbart, M.; Wegley, L.; Leeds, S.; Schoenfeld, T.; Rohwer, F.: THE IMPACT OF VIRUSES ON MICROBIAL PROCESSES IN HOT SPRINGS

3:15 pm  Bates, A. E.: THE RELATIVE IMPORTANCE OF GILL-ASSOCIATED BACTERIA TO LIMPET NUTRITION FROM DIFFERENT HYDROTHERMAL HABITATS ON THE JUAN DE FUCA RIDGE.

3:30 pm  Scott, K. M.; Schwedock, J.; Schrag, D. P.; Cavanaugh, C. M.: KINETIC ISOTOPE EFFECT OF FORM I RUBISCO FROM CHEMOAUTOTROPHIC BACTERIA

3:45 pm  Bergin, C.; Dando, P. R.; Dubilier, N.; MacGregor, B. J.: STABLE CARBON ISOTOPIC COMPOSITION OF RNA AND SSU RNA IN THE HYDROTHERMAL VENT MUSSEL BATHYMODIOLUS AZORICUS HARBOURING A DUAL ENDSYMBIONT POPULATION

4:00 pm  Dattagupta, S.; Bergquist, D. C.; Smith, E. B.; Macko, S. A.; Fisher, C. R.: TISSUE STABLE ISOTOPE TURNOVER IN TRANSPLANTED HYDROTHERMAL VENT MUSSELS EXPRESSED AS A FUNCTION OF GROWTH AND PHYSIOLOGICAL CONDITION

4:15 pm  Joyner, J. L.; Lee, R. W.: THE POSSIBLE ROLE OF TAURINE AND THIOTAURINE IN SULFIDE DETOXIFICATION IN A CHEMOAUTOTROPHIC BACTERIA-MOLLUSC SYMBIOSIS

4:30 pm  Blazek, A.; Amann, R.; Dubilier, N.: ARE THE SULFIDE-OXIDIZING SYMBIONTS OF A GUTLESS OLIGOCHAETE FROM NEARLY ANOXIC SEDIMENTS OFF THE COAST OF PERU LIMITED BY OXYGEN?

4:45 pm  Rautio, M.; Vincent, W. F.; Sathyendranath, S.: THE OCEANIC HIGH-NUTRIENT, LOW-CHLOROPHYLL REGIME: LIMITS ON BIOMASS AND NITRATE BEFORE AND AFTER IRON FERTILIZATION

5:00 pm  Goffredi, S. K.; Waren, A.; Orphan, V. J.; Van Dover, C. L.; Vrijenhoek, R. C.: A NEWLY DESCRIBED VENT SNAIL FROM THE INDIAN OCEAN; METAL-RICH AND ASSOCIATED WITH BOTH ENDO- AND EPIBIOTIC BACTERIA

5:15 pm  Bates, A. E.: THE RELATIVE IMPORTANCE OF GILL-ASSOCIATED BACTERIA TO LIMPET NUTRITION FROM DIFFERENT HYDROTHERMAL HABITATS ON THE JUAN DE FUCA RIDGE.

5:30 pm  Breault, S.; Smail, E.; Dattagupta, S.; Smith, A. N.; Haley, S. T.: PLANKTONIC TROPHIC CASCADES IN THE SOUTHERN BRAZILIAN BIGHT

SS4.04: Symbiosis and Syntrophy in Extreme Environments

Chair(s): Nicole Dubilier, n.dubilie@mpi-bremen.de
Douglas C. Nelson, dcnelson@ucdavis.edu
Location: 151 DEF
9:30 am  Antje Boetius, A.: SYMBIOSIS AND SYNTROPHY IN EXTREME ENVIRONMENTS AND BEYOND: THE QUESTION OF MUTUAL BENEFITS


10:30 am  Scott, K. M.; Schwedock, J.; Schrag, D. P.; Cavanaugh, C. M.: KINETIC ISOTOPE EFFECT OF FORM I RUBISCO FROM CHEMOAUTOTROPHIC BACTERIA

11:00 am  Bergin, C.; Dando, P. R.; Dubilier, N.; MacGregor, B. J.: STABLE CARBON ISOTOPIC COMPOSITION OF RNA AND SSU RNA IN THE HYDROTHERMAL VENT MUSSEL BATHYMODIOLUS AZORICUS HARBOURING A DUAL ENDSYMBIONT POPULATION

11:15 am  Joyner, J. L.; Lee, R. W.: THE POSSIBLE ROLE OF TAURINE AND THIOTAURINE IN SULFIDE DETOXIFICATION IN A CHEMOAUTOTROPHIC BACTERIA-MOLLUSC SYMBIOSIS

11:30 am  Blazek, A.; Amann, R.; Dubilier, N.: ARE THE SULFIDE-OXIDIZING SYMBIONTS OF A GUTLESS OLIGOCHAETE FROM NEARLY ANOXIC SEDIMENTS OFF THE COAST OF PERU LIMITED BY OXYGEN?

11:45 am  Bates, A. E.: THE RELATIVE IMPORTANCE OF GILL-ASSOCIATED BACTERIA TO LIMPET NUTRITION FROM DIFFERENT HYDROTHERMAL HABITATS ON THE JUAN DE FUCA RIDGE.

12:00 pm  Geoffroy, S. K.; Waren, A.; Orphan, V. J.; Van Dover, C. L.; Vrijenhoek, R. C.: A NEWLY DESCRIBED VENT SNAIL FROM THE INDIAN OCEAN; METAL-RICH AND ASSOCIATED WITH BOTH ENDO- AND EPIBIOTIC BACTERIA

2:15 pm  Borowski, C.; Urakawa, H.; Gere, O.; Krieger, J.; Amann, R.; Dubilier, N.: DUAL SYMBIOSIS IN THE HYDROTHERMAL VENT GASTROPOD IFREMERIA NAUTILEI: EVIDENCE FOR TWO DIFFERENT AND UNUSUAL SYMBIONTS IN ISOLATED HOST POPULATIONS

2:30 pm  Breitbart, M.; Wegley, L.; Leeds, S.; Schoenfeld, T.; Rohwer, F.: THE IMPACT OF VIRUSES ON MICROBIAL PROCESSES IN HOT SPRINGS

3:00 pm  Dubilier, N.; Pentz, A.; Kuever, J.; Borowski, C.; Reddell, S.; Murrill, J. C.; Amann, R.; Dubilier, N.: SULFIDE-OXIDIZING SYMBIONTS IN A HYDROTHERMAL VENT SNAIL EXPRESS A GENE INVOLVED IN THE OXIDATION OF METHANE (PMOA)

3:15 pm  Gomes da Silva, S.; Dubilier, N.; De Ridder, C.: Characterization of the symbiotic microbial community inhabiting the intestinal caecum of a deposit feeder echinoid by 16s rRNA phylogenetic analysis

(*) represents Tutorial presentations
3:00 pm  Buck, K. R.; Bary, J. P.; Hallam, S. J.; Bernhard, J. M.: ASSEMBLAGES ASSOCIATED WITH SHEATHED THIOTROPHIC BACTERIA FROM COLD SEEPS IN MONTEREY BAY

3:15 pm  Kuever, J.; Moyer, B.: PHYLOGENY OF SULFUR-OXIDIZING AND SULFATE-REDUCING MICROORGANISM BASED ON THE apsB AND apsA GENE

CS03: Applied and Management Issues (Posters)
Location: Grand Ballroom (E-J)

3. Rios, J. V.; Walsh, E. J.; Gardea-Torresdey, J. L.: INDUCTION OF HEAT SHOCK PROTEIN 60 (HSP60) IN ROTIFIERS EXPOSED TO ARSENIC AND HEAVY METALS

CS08: Biogeochemical Cycles (Posters)
Chair(s): Jay Cullen, jcullen@whoi.edu
Martin Shafer, mmshafer@facstaff.wisc.edu
Margaret Squires, ms24@ualberta.ca
Location: Grand Ballroom (E-J)

8. Jensen, A.; Gunnaugsson, H. P.; Narberg, P.; Finster, K.: IRON REDUCTION AND IRON MINERAL FORMATION WITH NATURALLY OCCURRING IRON OXIDES UNDER IN SITU CONDITIONS
9. Boyd, T. J.; Osburn, C. L.: CHANGES IN ALLOCHTHONOUS AND AUTOCHTHONOUS CDOM EXCITATION-EMISSION FLUORESCENCE MATRICES (EEMS) FROM BACTERIAL DEGRADATION
11. Sievert, R. L.; Chen, Y.: LABILE IRON IN AEROSOLS COLLECTED OVER THE ATLANTIC AND PACIFIC OCEANS

CS10: Climate Change, Interannual/Interdecadal Variation and Global Change (Posters)
Chair(s): Christian Fritsen, cfritsen@dri.edu
Catherine O’Reilly, ccarreilly@vassar.edu
Location: Grand Ballroom (E-J)

13. Spruance, C. L.; Moser, K. A.: A PRELIMINARY ANALYSIS OF DIATOM DISTRIBUTIONS IN UINTA MOUNTAIN LAKES, UTAH, USA

CS15: Fish (Posters)
Chair(s): Benjamen Kennedy, benk@cc.usu.edu
Location: Grand Ballroom (E-J)

15. Brooks, K. L.: PATTERNS OF SEAMOUNT ENDEMISM IN FISHES OF THE HAWAIIAN AND EMPEROR SEAMOUNTS; A STUDY BASED ON THE SEAMOUNTSONLINE DATABASE
16. Richardson, D. E.; Cowen, R. K.: DIVERSITY OF LEPTOCEPHALUS LARVAE AROUND THE ISLAND OF BARBADOS; RELEVANCE TO REGIONAL DISTRIBUTIONS

CS16: Harmful Algal Blooms (Posters)
Chair(s): Tammi Richardson, tammi@ocean.tamu.edu
Andrew Juhl, juhl.andy@epa.gov
Location: Grand Ballroom (E-J)


(*) represents Invited presentations

CS19: Macrophytes (Posters)

Location: Grand Ballroom (E-J)


27. Yokokawa Taichi.; Nagata Toshi.; ABDUNCE AND GROWTH RATE OF PHYLOGENETICALLY DISTINCT SUBPOPULATIONS OF BACTERIOPLANKTON IN OTSUCHI BAY, JAPAN

CS21: Microbial Dynamics (Posters)

Chair(s): David Smith, dcsmith@gso.uri.edu
Jessica Morgan, jmorgan@vims.edu

Location: Grand Ballroom (E-J)


26. Rose, J. M.; Caron, D. A.; Sieracki, M. E.; Schaffner, R. A.; Thier, E. C.; CYTOMETRIC QUANTIFICATION OF HETEROTROPHIC PROTISTS IN CULTURE AND IN MARINE MICROBIAL COMMUNITIES

27. Yokokawa Taichi.; Nagata Toshi.; ABDUNCE AND GROWTH RATE OF PHYLOGENETICALLY DISTINCT SUBPOPULATIONS OF BACTERIOPLANKTON IN OTSUCHI BAY, JAPAN

CS24: Nutrient Dynamics (Posters)

Chair(s): Nicole Goebel, nicole.goebel@uconn.edu
Michael Lipsen, mlipsen@eos.ubc.ca

Location: Grand Ballroom (E-J)


29. Oza, H. L.; Anderson, M. A.: INTERNAL LOADING AND NUTRIENT BUDGET IN A SMALL SOUTHERN CALIFORNIA RESERVOIR


31. Kim, J. S.; Oh, S. Y.; Oh, K. Y.; Wurtsbaugh, W. A.: NUTRIENT DYNAMICS IN A KOREAN WATERSHED WITH RICE PADDY FIELDS

CS27: Paleolimnology and Paleooceanography (Posters)

Location: Grand Ballroom (E-J)

33. Hicks, J. L.; Slate, J. E.: HISTORICAL ENVIRONMENTAL CHANGE IN LAKE DRUMMOND OF THE GREAT DISMAL SWAMP

34. Holmes, M. E.; Fischer, G.; Wefer, G.: NITROGEN ISOTOPES IN PLANKTON, SINKING PARTICLES AND SURFACE SEDIMENTS IN THE SOUTH ATLANTIC OCEAN

CS30: Primary Production (Posters)

Location: Grand Ballroom (E-J)

35. Behrenfeld, M. J.; Boss, E.: AN OPTICAL INDEX OF PHYTOPLANKTON PHOTOSYNTHESIS AND ITS RELATION TO LIGHT SATURATED PHOTOSYNTHESIS IN THE SEA

CS35: Trophic Dynamics (Posters)

Chair(s): Bob Sterner, stern007@umn.edu
Kam Tang, kamtang@vims.edu

Location: Grand Ballroom (E-J)


37. Kiffney, P. M.: NUTRIENT LIMITATION OF STREAM PERiphyton ALONG A LIGHT GRADIENT

38. Doyle, R. A.; Gillette, J. P.; Hairston, N. G.: HOW DOES WATER RETENTION TIME AFFECT ZOOPLANKTON AND PHYTOPLANKTON DYNAMICS?&amp;quot;B212:A BROAD AND LOCAL SCALE LOOK AT LAKE ONTARIO EMBAYMENT PLANKTON COMMUNITIES


*represents Tutorial presentations*
CS37: Watershed Ecology and Ecosystems (Posters)
Location: Grand Ballroom (E-J)
41. Decker, J. D.: TEMPERATURE IMPACTS OF LAKE-STREAM INTERACTIONS IN SUBALPINE WATERSHEDS

CS39: Zooplankton (Posters)
Chair(s): Cynthia Suchman, cynthia.suchman@noaa.gov
Sandra Connelly, sjc25@buffalo.edu
Deborah Steinberg, debbies@vims.edu
Michael Brett, mtbrett@u.washington.edu
Russel Hopcroft, hopcroft@ims.uaf.edu
Location: Grand Ballroom (E-J)
42. Barojas, A. R.; Kremer, P.: FERTILIZATION RATES OF THE PELAGIC TUNICATE SALPA ASPERA IN THE MID ATLANTIC BIGHT, USA
43. Rossberg, M. C.; Wickham, S. A.: CILIATE VERTICAL MIGRATION IN LAKE SPELDROP, GERMANY
44. Oppert, C. J.; Marcus, N. H.: SUBLETHAL RESPONSES OF SUCCESSIVE GENERATIONS OF ACARTIA TONSA REARED UNDER HYPOXIA
47. Utz, L. E.; Coats, D. W.; Small, E. B.: HOST SPECIFICITY OF THE EPIBIONT ZOOTHAMNIA SP. (CILIOPHORA: PERITRICHIA) ATTACHED TO CALANOID COPEPODS IN THE CHESAPEAKE BAY, USA
50. Hennen, C.; Haddock, S.; Case, J.: Bioluminescent plankton communities in Monterey Bay: Is bioluminescent intensity as measured by a bathyphotometer a direct reflection of the plankton community?

SS1.02: Coastal Indicators of Water Quality and Ecological Condition (Posters)
Chair(s): Hans W. Paerl, hans_paerl@unc.edu
Gerald J. Niemi, gniemi@umn.edu
Location: Grand Ballroom (E-J)

SS1.03: Groundwater/Surface Water Interactions (Posters)
Chair(s): Stephen Opsahl, sopsahl@onessr.org
Matthew A. Charette, mcharette@whoil.edu
Kevin Kroeger, kroeger@bu.edu
Location: Grand Ballroom (E-J)
53. Opsahl, S. P.: SOURCES AND BIOGEOCHEMICAL TRANSFORMATIONS OF ORGANIC MATTER AND NITROGEN AT KARST SURFACE WATER/GROUNDWATER INTERFACES

SS1.04: Impacts of Changing Land Use on Aquatic Ecosystems (Posters)
Chair(s): G.S. Kleppel, gkleppel@albany.edu
Location: Grand Ballroom (E-J)
55. Orbasco, F.; Charette, M. A.; Charette, M. A.; Britson, C. A.; Threlkeld, S. T.: AN EMPIRICAL STUDY OF LIMNOLOGICAL RELATIONSHIPS IN LAKES AND PONDS OF NORTH MISSISSIPPI

SS1.05: The History and Current Status of Eutrophication in Freshwater and Marine Ecosystems (Posters)
Chair(s): Val Smith, vsmith@ku.edu
Mandy Joye, mjoye@arches.uga.edu
Robert Howarth, rwh2@cornell.edu
Location: Grand Ballroom (E-J)

SS2.01: The Limits to Paleolimnology? Linking Sedimentary Records with Contemporary Process-based Studies (Posters)
Chair(s): Daniel Engstrom, dengstrom@smm.org
Richard Battarbee, r.battarbee@albany.edu
Location: Grand Ballroom (E-J)
58. Last, W. M.; Shang, Y.: LIMNOGEOLOGY AND PALEOLIMNOLOGY OF INGBRIGHT AND NORTH INGBRIGHT LAKES, SASKATCHEWAN, CANADA: THE ANCIENT A KEY TO THE MODERN
59. Poser, E. A.; Saros, J. E.; Wolfe, A. P.; Interlandi, S. J.: SYNCHRONOUS SHIFTS IN SEDIMENTARY DIATOM ASSEMBLAGES AND NUTRIENT RATIOS IN AN ALPINE LAKE

(*) represents Invited presentations
SS2.02: Lacustrine Hydrology Past and Present: Linking Lakes, Catchments, Atmosphere, and Ocean (Posters)

Chair(s): Sherilyn C. Fritz, sfritz2@unl.edu
Location: Grand Ballroom (E-J)
60. Stone, J. R.; Fritz, S. C.: MODELING CHANGES IN LAKE LEVEL AND ITS APPLICATION TO PLANKTIC: BENTHIC DIATOM RATIOS

SS3.21: Research Experiences of Undergraduates in Ocean Sciences (Posters)

Chair(s): Russell L. Cuhel, rcuhel@uwm.edu Carmen Aguilar, aguilar@uwm.edu
Location: Grand Ballroom (E-J)
61. Mackenzie, P. D.; Luecke, C.: EFFECTS OF LANDSCAPE POSITION ON EMERGENCE AND GROWTH OF ARCTIC GRAYLING
66. Georger, C. J.: DIURNAL CYCLING OF INTRACELLULAR THIOLS IN CULTURE AND FIELD STUDIES
70. Giford, S. M.; Lind, O. T.: LIGHT LIMITATIONS OF ALGAL PRODUCTION IN LAKES AND RESERVOIRS
71. Dione, J. A.; Cornillon, P. C.: ON THE FORMATION AND EVOLUTION OF SHEAR FRONTS
73. Ashmun, G. C.; Muenchow, A.: BAFIN BAY DEEP WATER (+1000M) WARMING FROM 1924 TO 1997
76. McAndrew, P. M.; O’Reilly, C. M.; Polz, M. F.: BACTERIAL DIVERSITY WITHIN THE WATER COLUMN OF THE PELAGIC ZONE OF LAKE TANGANYIKA (NYANZA PROJECT, TANZANIA, AFRICA)
77. Biringo, J.; Binkowski, F. P.; Bruch, R.: FOOD HABIT STUDY OF LAKE STURGEON, ACPENSER fulvescens
80. Stefaniak, L. M.; Shulman, M. J.: ARE THERE COSTS TO BEING BORED? INTERACTIONS BETWEEN THE COMMON PERIWINKLE LITTORINA LITTORAEA AND A BORING SPONGE
82. Harris, R. J.: CLIMATE VARIABILITY OF THE LATE HOLOCENE: INVESTIGATING COASTAL CLIMATE CHANGE USING PALEO-INDIAN SHELL MIDDENS
83. Greig, G. J.: TEMPORAL AND SEASONAL UREA CYCLING IN THE SARGASSO SEA
84. Strzele, L.: SOLAR RADIATION AND MARINE INVERTEBRATE LARVAE IN PUERTO SOUNDED
88. Ow, L. N.; Washburn, L.; Siegel, D. A.; McPhee-Shaw, E. E.: MOORED OBSERVATIONS OF BIOLOGICAL AND PHYSICAL OCEANOGRAPHIC VARIABILITY NEAR KELP REEFS IN THE SANTA BARBARA CHANNEL

(*) represents Tutorial presentations

90. Van Alstine, J. M.; Cohen, A. S.: NYANZA PROJECT RESEARCH ON THE RELATIONSHIP OF OSTRACODE ABUNDANCE AND TAPHONOMY TO ENVIRONMENTAL VARIABLES ON THE LUICHE DELTA PLATFORM, LAKE TANGANYIKA

91. Bristow, G. M.; Taillefert, M.: IRON AND PHOSPHOROUS CYCLING IN INTERTIDAL SALTIMARSH SEDIMENTS


(*) represents Invited presentations
Wednesday, February 12, 2003

CS14: Estuarine and Near-Shore Processes
Chair(s): Gregg Snedden, gsnedde@lsu.edu
Cynthia Kicklighter, gt7853a@prism.gatech.edu
Location: 150 DEF
9:30 am Roman, M. R.; Zhang, X.; McGilliard, C.; Boicourt, W.: CENSUS OF MARINE LIFE (COML) IN CHESAPEAKE BAY: ANNUAL VARIABILITY IN THE SPATIAL PATTERNS OF PLANKTON ABUNDANCE
9:45 am Zhang, X.; Roman, M.; McGilliard, C.; Boicourt, W.: SCALE ANALYSIS OF THE SPATIAL/TEMPORAL VARIABILITY AND COVARIANCE OF HYDROGRAPHIC VARIABLES WITH ZOOPLANKTON BIOMASS IN THE CHESAPEAKE BAY
10:00 am Wheelock, K. V.; Cable, J. E.: SEDIMENT DEPOSITIONAL PATTERNS ON A FRESHWATER MARSH ADJACENT TO THE MISSISSIPPI RIVER, SOUTHERN LOUISIANA
10:15 am Snedden, G. A.; Cable, J. E.; Walker, N. D.: Hydrologic Effects of Pulsed Riverine Flooding to a Deltaic Wetland in Coastal Louisiana
10:30 am Bahr, M.; Teske, A.; Crump, B. C.: SEASONAL PATTERNS OF DIVERSITY OF SULFATE REDUCING BACTERIA IN A SALT MARSH: ANALYSIS BY SEQUENCING DISSIMILATORY SULFITE REDUCTASE GENES
11:00 am Natunewicz, C. C.; Hare, J. A.: THE EFFECT OF THE ENSO CYCLE ON RECRUITMENT OF WINTER-SPAWNED FISH LARVAE
11:15 am Engelsen, A.; Sundblåck, K.; Axelson, L.: IN SITU PRIMARY PROD UCTIVITY AND LIGHT ADAPTATION OF MICROPHYTOBENTHOS ALONG A DEPTH GRADIENT IN A MICROTIDAL FJORD
11:30 am Arnold, A. M.; Brush, G. S.: USING SEDIMENT CORES TO IDENTIFY FOOD WEB CHANGES IN THE CHESAPEAKE BAY
11:45 am Kildal, C. E.; Hay, M. E.: THE ROLE OF BROMINATED COMPOUNDS AS PREDATOR DETERRENTS IN SOFT-SEDIMENT SPECIES
12:00 pm Irvine, G. V.; Mann, D. H.; Short, J. W.: PERSISTENCE OF TEN-YEAR OLD EXXON VALDEZ OIL ON GULF OF ALASKA BEACHES: THE IMPORTANCE OF BOULDER ARMORING
2:15 pm Vance-Harris, C. A.; Rao, A.: DENTRIFICATION IN SANDY SEDIMENTS OF THE GEORGIA CONTINENTAL SHELF, USA
2:30 pm Thomas, S. A.; Valett, H. M.; Mulholland, P. J.; Webster, J. R.; Dahm, C. N.; Oronshak, C. L.: NITRATE PROCESSING AND RETENTION STREAMS (NPARs): AN OVERVIEW OF SPATIAL AND TEMPORAL VARIATION

CS24: Nutrient Dynamics
Chair(s): Nicole Goebel, nicole.goebel@uconn.edu
Michael Lipson, mlipson@eos.ubc.ca
Location: 150 DEF
2:30 pm Thomas, S. A.; Valett, H. M.; Mulholland, P. J.; Webster, J. R.; Dahm, C. N.; Oronshak, C. L.: NITRATE PROCESSING AND RETENTION STREAMS (NPARs): AN OVERVIEW OF SPATIAL AND TEMPORAL VARIATION

CS39: Zooplankton
Chair(s): Cynthia Suchman, cynthia.suchman@noaa.gov
Sandra Connelly, sjc25@buffalo.edu
Deborah Steinberg, debbies@vims.edu
Michael Brett, mtbrett@u.washington.edu
Russel Hopcroft, hopcroft@ims.uaf.edu
Location: 251 DE
9:30 am McConnaugha, J. R.: OMNIVORY IN DECAPOD LARVAE: IMPLICATIONS FOR RECRUITMENT SUCCESS
10:00 am Revel, J. L.; Brett, M. T.: DIRECT AND INDIRECT EFFECTS OF ALGAL FOOD QUALITY UNDER PHOSPHORUS LIMITING CONDITIONS
10:15 am Leising, A. W.; Priess, P.; Frost, B. W.; Postel, J.; Homer, R.: MICROZooplankton and copepod grazing rates during spring 2002, DABOB BAY, WA: DO THEY AVOID DIATOMS?
10:30 am Gibson, D. M.; Kremer, P.: FEEDING RATES OF SALPA ASPERA IN THE MID ATLANTIC BIGHT, USA
11:00 am Stegen, J. C.; Black, A. R.: THE PREDATOR-PREY RELATIONSHIP BETWEEN WATER MITES (PIONA SP.) AND THE ZOOPLANKTON OF SMALL RISHLESS PONDS

(36) represents Tutorial presentations
SS1.01: Saline Lakes: Responses to Anthropogenic Forcings and Appropriate Management Strategies

Chair(s): Robert Jellison, jellison@lifesci.ucsb.edu
Wayne Wurtsbaugh, wurts@cc.usu.edu

Location: 151 DEF

2:15 pm Jellison, R.; Melack, J. M.: EFFECTS OF MEROMICTIC EPISODES AT MONO LAKE, CALIFORNIA AND THE POTENTIAL TO LESSEN THEIR OCCURRENCE AND IMPACTS THROUGH ACTIVE MANAGEMENT

2:30 pm Bali, S. K.; Jellison, R.: THE NON-LINEAR RESPONSE OF ARTEMIA DEVELOPMENT TO FOOD AVAILABILITY RESULTS IN LARGE VARIATIONS IN PEAK ADULT ABUNDANCES IN HYPERSONAL MONO LAKE, CALIFORNIA


3:00 pm Yamamuro, M.; Hiratsuka, J.; Ishibashi, Y.: ROLE OF SEAGRASS FISHERIES ON THE NUTRIENT REMOVAL FROM ESTUARINE LAGOON, LAKE MAKAIUMI, JAPAN

4:00 pm Hurlbert, S. H.; Los Saltosios Ferros: THE SALTON SEA: WHERE BIG ISSUES COLLIDE AND THE POLITICALLY CORRECT HIDE


4:30 pm Gross, D. H.; Wurtsbaugh, W. A.: ANTHROPOGENIC EUTROPHICATION OF AN URBAN EMBAYMENT OF THE GREAT SALT LAKE, UTAH

4:45 pm Wurtsbaugh, W. A.; Lester, Q.; SALINITY CONTROL OF NUTRIENT LIMITATION, N-FIXATION AND EUTROPHICATION IN THE GREAT SALT LAKE, UTAH

5:00 pm Alcocer, J.; Escobar-Brones, E.; THE UNPLANNED, ACCELERATED DEMOGRAPHIC GROWTH OF MEXICO IS THREATENING ITS SALINE LAKES: A PROBLEM LACKING SOLUTION?

SS1.02: Coastal Indicators of Water Quality and Ecological Condition

Chair(s): Hans W. Paerl, hans_paerl@unc.edu
Gerald J. Niemi, gniemi@nrri.umn.edu

Location: 251 AB


9:45 am Summers, J. K.: SELECTING AND DEVELOPING INDICATORS FOR MONITORING CONDITION: THE NATIONAL COASTAL ASSESSMENT EXPERIENCE

10:00 am Drion, J. N.; Schrimpf, W.; Dobricic, S.; Stips, A.; Vogt, P.; THE PHYSICAL ENVIRONMENT AS A KEY FACTOR IN ASSESSING THE EUTROPHICATION STATUS AND VULNERABILITY OF SHALLOW SEAS; PSA AND EUTRISK (V2.0)

10:15 am Jamciki, L. L.: MANGROVES AS FINE-SCALE INDICATORS OF HYDROLOGICAL VARIATION: A STUDY OF COASTAL SALT PONDS IN THE BRITISH VIRGIN ISLANDS


11:00 am Pina, R. J.; Milie, D. F.; Steidinger, K. A.; Bende, B. J.: RELATING PHYTOPLANKTON COMPOSITION TO ENVIRONMENTAL FORCING IN THE LOWER ST. JOHNS RIVER ESTUARY

11:15 am Noble, B. T.; Blackwood, A. D.; Gregory, J. A.; Paerl, H. W.; Pielert, B. J.; Pielert, M. F.: UNDERSTANDING INTERACTIONS AMONG VIRAL, BACTERIAL, AND PHYTOPLANKTON ASSEMBLAGES AS INDICATORS OF ESTUARINE ECOSYSTEM HEALTH

(*) represents Invited presentations
11:30 am  Gallegos, C. L.: DEVELOPMENT OF AN OPTICAL INDICATOR OF HABITAT SUITABILITY FOR SUBMERGED AQUATIC VEGETATION IN ESTUARIES

11:45 am  Hrubik, T; Kingston, J. C.; Sgro, G. V.; Johansen, J. R.; Domzal, K.

12:00 pm  Kimor, B.; PHYTOPLANKTON STUDIES OFF THE MEDITERRANEAN COAST OF ISRAEL BEFORE AND AFTER THE OPERATION OF THE ASWAN HIGH DAM (AHD) ON THE NILE

2:15 pm  Hill, B. H.; Eloen, C. M.; Jicha, T. M.; Thompson, J. A.; EXTRACELLULAR ENZYME ACTIVITY AS A SURROGATE FOR NUTRIENTS AND NUTRIENT HISTORY IN GREAT LAKES WETLANDS

2:45 pm  Kelly, J. R.; Yurista, P. M.; Morrice, J. M.: VARIABILITY, PATTERN, AND SENSITIVITY OF ECOLOGICAL INDICATORS FOR NEARSHORE REGIONS OF THE GREAT LAKES

3:15 pm  Sierianz, M. E.; Brazier, J. C.; Morrice, J. M.; Peterson, G. S.; Tebbitz, A. S.; FOOD WEB STRUCTURE AS A POTENTIAL INDICATOR OF NUTRIENT ENRICHMENT IN GREAT LAKES COASTAL WETLANDS

4:00 pm  Sinning, C. S.; Lehto, R. A.; Swackhamer, D. L.; Diamond, S. A.; Mount, D. R.; PHOTOTOXICITY OF POLYCYCLIC AROMATIC HYDROCARBONS IN COASTAL GREAT LAKES WATERS

4:15 pm  Yurista, P. M. Kelly, J. R.; Miller, S. E.: ZOOPLANKTON SIZE-SPECTRA AS AN INDICATOR IN GREAT LAKES COASTAL WATERS

4:45 pm  Holden, P. A.; LaMontagne, M. G.; MICROBIAL COMMUNITY COMPOSITION AND DIVERSITY AS INDICATORS OF SALT MARSH ECOSYSTEM HEALTH

5:00 pm  Udin, S. L.; Loy, M.; Rosso, P. H.; Pushnik, J.; Zarco-Tejada, P.; Wilson, M.: REMOTE SENSING OF WETLAND CONDITIONS IN WEST COAST SALT MARSHES

5:15 pm  Hollibaugh, J. T.; Vasquez, L. I.: COMPOSITION OF AMMONIA-OXIDIZING BACTERIA ASSEMBLAGES AS INDICATORS OF ESTUARINE PROCESSES

10:00 am  Turner, R. E.; Rabalais, N. N.; Justic, D.; Dortch, Q.: SYSTEM-WIDE EUTROPHICATION OF THE GULF OF MEXICO

11:00 am  Scavia, D.; Rabalais, N.; Turner, E.; Justic, D.; Wiseman, w.: PREDICTING GULF OF MEXICO HYPOXIA

11:30 am  Kinzie, R. A.; Mackenzie, F.; Stimson, J.; Smith, S. V.; Cox, E.; Hoover, D.: KANEHOE BAY: 23 YEARS AFTER

2:15 pm  Eingmork, R.; Larsson, U.: THE BALTIC EUTROPHICATION CASE HISTORY

2:45 pm  Smith, V. H.: EUTROPHICATION OF FRESHWATER AND MARINE ECOSYSTEMS

3:15 pm  Evans, G. L.; le B. Williams, P. J.; Mitchellson-Jacob, E. G.: CLIMATIC VERSUS ANTHROPOGENIC CONTROL OF NUTRIENTS IN THE IRISH SEA

3:30 pm  Sanders, M.; Stibor, H.; Sommer, U.: SILICATE INDUCED CHANGES IN MARINE PELAGIC FOODWEBS

4:00 pm  Lee, R. S.; Allen, S. E.; Bird, T.; Denman, K. L.; Dower, J. F.; Harris, S.; Ingram, R. G.; Pawlowicz, R.: BIOPHYSICAL COUPLING IN THE STRAIT OF GEORGIA

4:15 pm  Speak, P.; Keller, B.: HOW WELL DOES A RESTING EGG BANK IN THE LAKE SEDIMENT, REFLECT ITS CORRESPONDING PELAGIC POPULATION IN A RESTORED EUTROPHICATED LAKE?


4:45 pm  Hyacinthe, C.; Van Cappellen, P.: SEDIMENTARY PHOSPHORUS SINK IN AN EUTROPHIC ESTUARY (SCHELDT ESTUARY, BELGIUM AND THE NETHERLANDS)

5:00 pm  Abraham, J.; Kiesling, R. L.; Dworkin, S. I.: ASSESSMENT OF THE EUTROPHICATION HISTORY OF A SOUTHERN TEMPERATE RESERVOIR: GEOCHEMICAL RESULTS

SS1.106: Carbon Cycles in Large Lakes

Chair(s): Tom Johnson, tcj@d.umn.edu

Location: 151 DEF

9:30 am  Berman, T.; Parparov, A.; Yacoby, Y. Z.: ESTIMATES OF BACTERIAL COMMUNITY GROWTH EFFICIENCIES AND CELL DOUBLING TIMES IN LAKE KINNERET, ISRAEL


10:00 am  Waples, J. T.; Klump, J. V.: NET ANNUAL PRIMARY PRODUCTION:RESPIRATION RATIOS ALONG A STRONG TROPHIC GRADIENT IN GREEN BAY, LAKE MICHIGAN

10:15 am  Klump, J. V.; Fitzgerald, S. A.; CARBON DEPOSITION, BURIAL, STOCHIO-METRY AND BIOCHEMICAL CYCLING IN GREAT LAKES ENVIRONMENTS

10:30 am  Ain, S. R.; Johnson, T. C.; CARBON STORAGE AND EVASION RATES IN LARGE LAKES

11:00 am  Bootzma, H. A.; Hecky, R. E.: LINKING CARBON FLUX AND SILICA DYNAMICS IN LAKE MALAWI

(*) represents Tutorial presentations
### SS1.06: Leave No Scientist Behind: How to Get Aquatic Sciences Into K-12 Classrooms

**Chair(s):** Lesley K. Smith, smithlk@cires.colorado.edu  
George I. Matsumoto, magel@mbari.org  

**Location:** 250 C  

#### 9:00 am
- **Chair(s):** Lesley K. Smith, smithlk@cires.colorado.edu  
- **Chair(s):** W. Berry Lyons, lyons.142@osu.edu  
- **Chair(s):** W. Berry Lyons, lyons.142@osu.edu  

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<th>Time</th>
<th>Speaker(s)</th>
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<tr>
<td>9:00 am</td>
<td>Chair(s): Lesley K. Smith, <a href="mailto:smithlk@cires.colorado.edu">smithlk@cires.colorado.edu</a></td>
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<td>9:15 am</td>
<td>Lesley K. Smith, <a href="mailto:smithlk@cires.colorado.edu">smithlk@cires.colorado.edu</a>/Selma St. Louis, <a href="mailto:stlouisr@msu.edu">stlouisr@msu.edu</a>/Nora W. Fang, <a href="mailto:nwfang@umb.edu">nwfang@umb.edu</a></td>
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<td>9:30 am</td>
<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>9:45 am</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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<td>10:00 am</td>
<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>10:15 am</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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<td>10:30 am</td>
<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>10:45 am</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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<td>11:00 am</td>
<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>11:15 am</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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<td>11:30 am</td>
<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>11:45 am</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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<td>12:00 pm</td>
<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>12:15 pm</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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<td>12:45 pm</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>3:00 pm</td>
<td>Chair(s): W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a></td>
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<td>3:15 pm</td>
<td>W. Berry Lyons, <a href="mailto:lyons.142@osu.edu">lyons.142@osu.edu</a>/Rob Mason, <a href="mailto:mason@cbl.umces.edu">mason@cbl.umces.edu</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a>/George I. Matsumoto, <a href="mailto:magel@mbari.org">magel@mbari.org</a></td>
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(*) represents invited presentations
SS3.08: Organic Matter in Aquatic Systems: Sources, Characterization, Distribution, and Quantification
Chair(s): Juanita Urban-Rich, juanita.urban-rich@umb.edu
Bob Chen, bob.chen@umb.edu
Diane McKnight, diane.mcknight@colorado.edu
Location: 151 G
9:30 am Assel-Scot, K.; Passow, U.: ASCENDING MARINE PARTICLES: SIGNIFICANCE OF TRANSPARENT EXOPOLYMER PARTICLES (TEP) IN THE UPPER OCEAN

11:00 am Maurice, P. A.; Young, K. C.; Docherty, K. M.; Bridgham, S. D.: THE EFFECTS OF BIODEGRADATION ON MOLECULAR WEIGHT DISTRIBUTIONS OF DISSOLVED ORGANIC MATTER


12:00 pm Carlson, C. A.; Goldberg, S. J.; Nelson, N. B.; Steinberg, D. K.: SPATIAL VARIABILITY OF DOC QUALITY AND QUANTITY IN THE SARGASSO SEA

2:00 pm Neuer, L.; Malmstrom, R. R.; Slezak, D.: SIGNIFICANT CONTRIBUTION BY DMSP TO BACTERIAL CARBON AND SULFUR FLUXES IN THE SUBTROPICAL NORTH ATLANTIC OCEAN


SS3.18: Biogeochemistry of the Tropical and Subtropical North Atlantic
Chair(s): Craig A. Carlson, carlson@lifesci.ucsb.edu
Dennis Hansell, dhansell@rsmas.miami.edu
Location: 251 C
9:30 am Capone, D. G.; Burns, J. A.; Carpenter, E. J.; Montoya, J. P.; Subramaniam, A.: N2 FIXATION BY TRICHODESMIUM IN THE TROPICAL N. ATLANTIC OCEAN

9:45 am Hansell, D. A.; Bates, N. R.; Olson, D. B.: EXCESS NITRATE AND NITROGEN FIXATION IN THE SUBTROPICAL NORTH ATLANTIC

10:00 am Knapp, A. N.; Sigman, D. M.: STABLE ISOTOPIC COMPOSITION OF DISSOLVED ORGANIC NITROGEN FROM THE SURFACE WATERS OF BATS


10:30 am Davey, M. S.; Mills, M.; Richame, C.; Croet, P.; La Roche, J.; Geidler, D.: ASSESSMENT OF NUTRIENT LIMITATION ON PHYTOPLANKTON COMMUNITIES ACROSS THE TROPICAL ATLANTIC

11:00 am Lomas, M. W.: SHALLOW REMINERALIZATION AND PHYTOPLANKTON COMMUNITY STRUCTURE AT THE BERMUDA ATLANTIC TIME-SERIES STUDY

11:15 am Dunn, H. G.: ZOOPLANKTON-MEDIATED BIOGENIC FLUXES IN THE OCEAN

11:30 am Dorre, M.: THE BIOGEOCHEMISTRY OF THE EASTERN ATLANTIC OCEAN


12:00 pm Neuer, L.; Malmstrom, R. R.; Slezak, D.: SIGNIFICANT CONTRIBUTION BY DMSP TO BACTERIAL CARBON AND SULFUR FLUXES IN THE SUBTROPICAL NORTH ATLANTIC OCEAN

2:00 pm Neuer, L.; Malmstrom, R. R.; Slezak, D.: SIGNIFICANT CONTRIBUTION BY DMSP TO BACTERIAL CARBON AND SULFUR FLUXES IN THE SUBTROPICAL NORTH ATLANTIC OCEAN

2:15 pm Neuer, L.; Malmstrom, R. R.; Slezak, D.: SIGNIFICANT CONTRIBUTION BY DMSP TO BACTERIAL CARBON AND SULFUR FLUXES IN THE SUBTROPICAL NORTH ATLANTIC OCEAN

2:45 pm Boudjellal, B.; Caniaux, G.: ON THE IMPACT OF NITRIFICATION AND DON EXCRETION ON NEW AND REGENERATED PRODUCTION IN THE EASTERN NORTH ATLANTIC OCEAN

3:00 pm Neuer, L.: THE BIOGEOCHEMISTRY OF THE EASTERN SUBTROPICAL ATLANTIC: INSIGHTS FROM TIME-SERIES STATION ESTOC

3:15 pm Le Fouest, V.; Zakardjian, B.; Saucier, F. J.; Starr, M.: A COUPLED 3-D HIGH-RESOLUTION CLIMATICALLY-DRIVEN ECOSYSTEM MODEL FOR THE GULF OF ST. LAWRENCE, CANADA

SS3.20: Landscape and Land-use Influences on Methylmercury Contamination of Aquatic Resources
Chair(s): James Wiener, wiener.jame@uwlax.edu
David Krabbenhoft, dpkrabbe@usgs.gov
Location: 250 AB
4:00 pm Hurley, J. P.; Bebrarz, C. L.; Stoor, R. W.: TRANSPORT AND TRANSFORMATION OF METHYL MERCURY IN CONTRASTING NORTHERN TEMPERATE WATERSHEDS: INTEGRATING NEW KNOWLEDGE TOWARD SOUND MANAGEMENT PRACTICE(*)

(*) represents Tutorial presentations
SS4.05: Microbial Genomics: Resolving the Adaptive Strategies of Bacteria from Extreme Environments

Chair(s): Craig Cary, caryc@udel.edu
Location: 151 ABC

9:30 am Murray, A. E.; Carter, B.; Cooper, R.; Kameda, A.: GENOMICS APPLICATIONS TO THE STUDY OF DIVERSITY AND GENE EXPRESSION IN ANTARCTIC PICOPLANKTON

9:45 am Heideberg, J. F.; Suzuki, M.; Eisen, J. A.; Preston, C.; Fraser, C. M.; DeLong, E. F.: EXPLORING GENOMIC POTENTIAL AND MICROBIAL DIVERSITY OF MICROBIAL COMMUNITIES

10:00 am Webb, E. A.; Carpenter, F. C.; Waterbury, J. B.: DEFINING THE IRON SCAVENGING MECHANISM OF OLIGOTROPHIC MARINE CYANOBACTERIA

10:15 am Campbell, B. J.; Cary, S. C.: MOLECULAR ANALYSES OF KEY AUTOTROPHIC ENZYMES INDICATE THE IMPORTANCE OF THE REDUCTIVE TCA CYCLE IN CHEMOLITOTROPHIC COMMUNITIES AT DEEP-SEA HYDROTHERMAL VENTS


SS4.07: Microbiology and Biogeochemistry of Cold Seeps

Chair(s): Antje Boetius, aboetius@mpi-bremen.de
Mandy Joye, mjoye@arches.uga.edu
Location: 250 DE

10:15 am Linke, P.; Sahlking, H.; Pfannkuche, O.; Sommer, S.: BIOGEOCHEMICAL FLUXES AND BENTHIC COMMUNITY STRUCTURE ABOVE SURFACE METHANE HYDRADE DEPOSITS (HYDRADE RIDGE, OR)


SS4.11: Biochemistry in Extreme Environments

Chair(s): Cordelia Arndt, coarndt@uni-greifswald.de
Horst Felbeck, hfelbeck@ucsc.edu
Location: 151 ABC

11:00 am Poechner, H. O.: ANIMALS IN EXTREME ENVIRONMENTS: BIOCHEMICAL ADAPTATIONS AND BEYOND

(*) represents invited presentations
11:30 am Bernhard, J. M.; Grzymski, J.; Schofield, O.; Bowser, S. S.: "THE PEROXISOME PUZZLE: DO FORAMINIFERS LIVING IN SULFIDE-ENRICHED SEDIMENTS RESPIRE USING PEROXISOMAL OXYGEN?"

11:45 am Felbeck, H.; Arndt, C.; Feldman, r. a.; Bench, s.; Benson, D.; Stein, J. L.; Schweder, T.: "BIOCHEMICAL ADAPTATIONS OF THE BACTERIAL SYMBOIITS OF THE HYDROTHERMAL VENT TUBEWORM Riftia PACHYPTILA PREDICTED FROM GENOMIC AND PROTEOMIC DATA"

12:00 pm Gaill, F.: "MOLECULAR ADAPTATION TO THE TEMPERATURE IN DEEP SEA VENT ORGANISMS"

2:15 pm Lee, R. W.: "THERMAL TOLERANCES OF DEEP-SEA HYDROTHERMAL VENT ANIMALS"

2:45 pm Antipov, A.; Sorokin, D. Y.; Kuenen, J. G.: "POLYFUNCTIONAL REDUCTASE FROM (HALO)ALKALIPHILIC BACTERIUM Thioalkalimicrobium Nitratireducens" ALEN 2


4:00 pm Krueger, M.; Nauhaus, K.; Treude, T.; Boetius, A.; Widdel, F.: "NEW INSIGHTS INTO THE PHYSIOLOGY OF THE ANAEROBIC OXIDATION OF METHANE"

4:15 pm Lomstein, B. A.; Böttcher, M.; Jørgensen, B. B.: "BACTERIAL INFLUENCE ON AMINO ACID ENANTIOMERIZATION IN A DEEP MARINE SEDIMENT"

CS06: Benthos (Posters)

Location: Grand Ballroom (E-J)

97. Burgher, T.; Hillebrand, H.; Reiss, J.; Wickham, S. A.: "EFFECT OF MACROZOOBENTHIC GRAZING ON AUTOTROPHS AND HETEROTROPHS IN PERIPHYTIC COMMUNITIES"

CS14: Estuarine and Near-Shore Processes (Posters)

Chair(s): Gregg Kuckhoffer, gt7853a@prism.gatech.edu

Location: Grand Ballroom (E-J)

98. Jones, M. B.; Epifanio, C. E.: "BRACHYURAN, POST-LARVAL PATCHES: CHARACTERIZATION AND TRANSPORT IN THE DELAWARE BAY"


100. Yahiro, L. A.; Carlson, P. R.; McAree, G.: "STOICHIOMETRIC RATIOS OF NITROGEN AND PHOSPHORUS IN FLORIDA (USA) ESTUARIES: INDICATORS OF REGIONAL ECOLOGICAL DIFFERENCES OR ANTHROPOGENIC IMPACTS?"

101. Page, H. M.; Dugan, J. E.; Culver, C. C.; Schroeder, D. M.; Bram, J.; Mardian, B.: "PATTERNS OF RECRUITMENT, DISTRIBUTION, AND ABUNDANCE OF INVERTEBRATES AND FISHES IN OFFSHORE PLATFORMS: RELATIONSHIPS TO GRADIENTS IN OCEANOGRAPHIC CONDITIONS"


104. Oroco, C. Q.; Moline, M. A.; Agrawal, Y.; Bergmann, T.; Kortel, J.; Schaffner, A.; Schofield, O. M.: "IN SITU CLASSIFICATION OF PHYTOPLANKTON IN OPTICALLY COMPLEX COASTAL WATERS"

105. Wilborn, U.; Achudume, A.; Pyrtle, A. J.: "SAVANNAH (GEORGIA) ESTUARY SEDIMENT GEOCHEMISTRY"

CS18: Land-Water Margins (Posters)

Location: Grand Ballroom (E-J)

CS22:
Modeling Approaches (Posters)
Location: Grand Ballroom (E-J)
107. Incze, L. S.; Wolff, N.; Boyce, A.: USING SPATIAL ANALYSIS (GIS) TO DEFINE SETTLEMENT LIMITS: APPLICATION TO RECRUITMENT AND POPULATION MODELS FOR A COASTAL INVERTEBRATE
108. Darrow, B. P.; Walsh, J. J.: PAR WARS, EPISODE II: ATTACK OF THE CLOUDS.

CS25:
Optics (Posters)
Chair(s): Bruce Hargreaves, brh0@lehigh.edu
Location: Grand Ballroom (E-J)
111. Blouin, F.; Roy, S.: SPATIAL AND TEMPORAL VARIABILITY IN PIGMENT COMPOSITION AND PHYTOPLANKTON SPECIFIC ABSORPTION COEFFICIENT IN THE ESTUARY AND GULF OF ST. LAWRENCE (CANADA)
112. Orellana, M. V.; Petersen, T. W.; Diercks, A. H.; van den Engh, G.: OPTICAL CHARACTERISTICS OF SINGLE MARINE MICROGELS

CS29:
Phytoplankton & Primary Production (Posters)
Chair(s): James Grover, grover@uta.edu
Steven Lohrenz, Steven.Lohrenz@usm.edu
Virginia Armbrust, armbrust@ocean.washington.edu
Location: Grand Ballroom (E-J)
113. Latz, M. I.; Rohr, J.; Allen, J.; Sarkar, S.: EFFECT OF FLOW INTERMITTENCY ON POPULATION GROWTH OF THE DINOFLAGELLATE LINGULIDINUM POLYEDRUM
114. Singler, H. B.; Villareal, T. A.: LIGHT AND FE EFFECTS ON NITRITE EXCRETION OF VERTICALLY MIGRATING RHIZOSOLENIA MATS
116. O’Brien, S. G.; Armbrust, E. V.; Olson, R. J.: EUKARYOTIC NANOPLANKTON DIVERSITY IN SARGASSO SEA EDDIES
117. Thomas, C. S.; Van Heukelom, L.: VITAMIN E ACETATE AS AN INTERNAL STANDARD FOR USE WITH PIGMENT ANALYSIS BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

CS31:
Remote Sensing and Technological Tools (Posters)
Chair(s): Tiffany Matson, tmatsen@osb.nasa.gov
Location: Grand Ballroom (E-J)
121. Subramaniam, A.; Lutz, V. A.; Negri, R. M.; Silva, R. I.: SCALES OF TEMPORAL AND SPATIAL VARIABILITY IN CHLOROPHYLL CONCENTRATION ON THE ARGENTINE CONTINENTAL SHELF
122. Keith, D. J.; Latimer, J. A.; Yoder, J. A.: THE SPATIAL DISTRIBUTION OF PHYTOPLANKTON CHLOROPHYLL CONCENTRATIONS IN NARRAGANSETT BAY USING AIRCRAFT REMOTE SENSING
123. Van Heukelem, L.; Hooker, S. B.; Claustre, H.; Berthon, J.; Barlow, R.: OPPORTUNITIES PROVIDED BY A PIGMENT ROUND-ROBIN (SEAHARRE-1) TO IDENTIFY METHODOLOGICAL PROCEDURES IMPORTANT TO THE REDUCTION OF UNCERTAINTY

CS33:
Sediment-Water Interactions (Posters)
Chair(s): Mark Alperin, alperin@email.unc.edu
Location: Grand Ballroom (E-J)

CS34:
Stream Dynamics (Posters)
Location: Grand Ballroom (E-J)
126. Zeolin, L. H.; Pershall, A. D.; Crenshaw, C. L.; Dahm, C. N.: HOW CHANGING LAND USE AFFECTS STREAM NUTRIENT AVAILABILITY AND UPTAKE IN ARID ENVIRONMENTS

SS1.08:
Leave No Scientist Behind: How to Get Aquatic Sciences Into K-12 Classrooms (Posters)
Chair(s): Lesley K. Smith, smithlk@cires.colorado.edu
George I. Matsumoto, mage@mbari.org
Location: Grand Ballroom (E-J)

(*) represents Invited presentations
128. Schaefer, K. A.; Blankenstein, H. L.; Nowocin, K. J.; Morton, S. L.: THE USE OF VOLUNTEERS TO MONITOR HARMFUL PHYTOPLANKTON

129. Thorold, A. L.; Crago, T. I.; Madin, K. A.; Murphy, S. A.: MODELS FOR INVOLVING SCIENTISTS IN OUTREACH EFFORTS: A MULTI-PRONGED APPROACH

130. Chen, R. F.; Dong, H.; Lukas, G.; Stevenson, R. D.; Brabander, D. J.; Beattie, R.: AN INNOVATIVE WEB-BASED SURVEY FOR ESTABLISHING CORE-LEARNING GOALS FOR ALL OCEAN AND ENVIRONMENTAL SCIENCE STUDENTS

SS3.01: Emergent Properties of Complex Aquatic Ecosystems: A Macroecological Perspective (Posters)

Chair(s): Andrea Belgrano, belgrano@unm.edu
Location: Grand Ballroom (E-J)

131. Houser, L. T.; Epifanio, C. E.: THE IMPORTANCE OF SWIMMING BEHAVIOR IN MAINTAINING PATCHES OF LARVAL CRABS: CAN BIOCHEMICAL CUES HAVE AN AFFECT?


SS3.02: Landscape Ecology and Environmental Grain from a Microbial Perspective (Posters)

Chair(s): Paul Kemp, paul.kemp@stonybrook.edu
Josephine Aller, jyaller@notes.cc.sunysb.edu
Location: Grand Ballroom (E-J)

133. Bulit, C.; Díaz-Avalos, C.; Montagnes, D. J.: SPATIAL STRUCTURE OF PLANKTONIC CIILIATE PATCHES IN A TROPICAL COASTAL LAGOON: AN APPLICATION OF GEOSTATISTICAL METHODS

SS3.03: The Biogeochemistry of Hg from Watershed to the Global Scale: A Tribute to the Contributions of W.F. Fitzgerald (Posters)

Chair(s): W. Berry Lyons, lyons.142@osu.edu
Rob Mason, mason@cbl.umces.edu
Location: Grand Ballroom (E-J)

134. Rearick, M. S.; Heyes, A.; Gilmour, C. C.; Mason, R. P.: FIELD MEASUREMENTS OF DISSOLVED SULFIDE IN SEDIMENT PORE WATERS OF A BOREAL FOREST LAKE AND WETLAND USING DIFFUSIVE GRADIENTS IN THIN FILMS

SS3.04: Significance of Small-scale Benthic Processes for Large Ecosystems (Posters)

Chair(s): Douglas C. Miller, dmillerd@udel.edu
Kevin R. Carman, zocarm@lsu.edu
Location: Grand Ballroom (E-J)

135. Marinelli, R. L.; Woodin, S. A.; Boudreau, B. P.: BIOCOMPLEXITY IN MARINE SEDIMENTS: A WORKSHOP REPORT

136. Liese, A.; Hillebrand, H.: EXPERIMENTAL TEST OF ECOLOGICAL STOICHIOMETRY IN BENTHIC FOOD WEBS


SS3.05: Does Microbial Diversity Matter in Ecosystem Function? (Posters)

Chair(s): Bess Ward, bbw@princeton.edu
Location: Grand Ballroom (E-J)

140. Judd, K. E.; Crump, B. C.; Kling, G. W.: DISSOLVED ORGANIC CARBON IN SOILS, STREAMS, AND LAKES OF AN ARCTIC CATCHMENT: LINKING BIOAVAILABILITY, CHEMISTRY, AND MICROBIAL COMMUNITY COMPOSITION

141. Schwabach, M. S.; Fuhrman, J. A.: AEROBIC, ANOXGENIC PHOTOTROPHS: QUANTIFICATION IN CALIFORNIA COASTAL WATERS AND POSSIBLE ECOLOGICAL ROLES IN MARINE BACTERIOPLANKTON

142. Schnetzer, A.; Caron, D. A.; Courtway, P. D.: A MOLECULAR APPROACH TO ASSESS THE IMPACT OF ZOOPLANKTON GRAZING

143. Tan, G. P.; Sullivan, M. B.; Rosentrant, J. E.; Waterbury, J. B.; Chisholm, S. W.: PROCHLOROCOCCUS AND SYNECHOCOCCUS CYANOPHAGE DIVERSITY


149. Chistoserdov, A. Y.; Madrid, V. M.; Aller, J. Y.; Aller, R. C.: METABOLIC POTENTIAL OF MICROBIAL COMMUNITIES FROM MOBILE DELTAIC SEDIMENTS.

SS3.08: Organic Matter in Aquatic Systems: Sources, Characterization, Distribution, and Quantification (Posters)

Chair(s): Juanita Urban-Rich, juanita.urban-rich@umb.edu
Bob Chen, bob.chen@umb.edu
Diane McKnight, diane.mcknight@colorado.edu

Location: Grand Ballroom (E-J)


151. Curless, S. E.; Sharp, J. H.: IMPROVED SIMULTANEOUS DOC/TDN ANALYSIS.


SS3.09: Cross-system Comparison of Sources, Composition, and Reactivity of DON (Posters)

Chair(s): Margie Muhlolland, mmuhl@odu.edu
Deborah Bronk, bronk@vims.edu

Location: Grand Ballroom (E-J)


SS3.10: Emergent Properties and Biocomplexity of Tropical Ecosystems (Posters)

Chair(s): Ilka C. Feller, feller@serc.si.edu

Location: Grand Ballroom (E-J)


SS3.12: Trophic Focusing and Subsidy in Aquatic Ecosystems (Posters)

Chair(s): Amatzia Genin, amatzia@vms.huji.ac.il
Mark Benfield, mbenfie@lsu.edu

Location: Grand Ballroom (E-J)


158. Kline, T. C.: INFERRED REDISTRIBUTION AND SUBSIDY OF PELAGIC PRODUCTION ACROSS THE GULF OF ALASKA SHELF AND PRINCE WILLIAM SOUND USING NATURAL STABLE ISOTOPE ABUNDANCE.

SS3.15: Coupling Seagrass Dynamics to Water Column and Sediment Geochemistry (Posters)

Chair(s): Peter Eldridge, eldrige.pete@epamail.epa.gov
James Kaldy, kaldy.jim@epa.gov

Location: Grand Ballroom (E-J)

159. Hu, X.; Burdige, D. J.: DISSOLVED CARBOHYDRATES AND DISSOLVED ORGANIC CARBON IN CARBONATE SEDIMENTS, LEE STOCKING ISLAND, BAHAMAS.

SS3.17: Spatial Patterns in Marine Fluxes: Global Perspectives from the JGOFS Program (Posters)

Chair(s): Adrian Burd, adrian@plankton.marsci.uga.edu

Location: Grand Ballroom (E-J)


(*): represents invited presentations
SS3.18: Biogeochemistry of the Tropical and Subtropical North Atlantic (Posters)

Chair(s): Craig A. Carlson, carlson@lifesci.ucsb.edu
Dennis Hansell, dhansell@rsmas.miami.edu
Location: Grand Ballroom (E-J)


SS3.20: Landscape and Land-use Influences on Methylmercury Contamination of Aquatic Resources (Posters)

Chair(s): James Wiener, wiener.jame@uwlax.edu
David Krabbenhoft, dpkrabbe@usgs.gov
Location: Grand Ballroom (E-J)

165. Bayer, A. K.; Branfireun, B. A.: BIOGEOCHEMICAL AND GEOMORPHOLOGICAL CONTROLS ON MERCURY DYNAMICS IN A MACROTIDAL SALT MARSH, BAY OF FUNDY, CANADA.
### Thursday, February 13, 2003

#### CS08: Biogeochemical Cycles

**Chair(s):** Jay Cullen, jcullen@whoi.edu  
Martin Shafer, mmshafer@facstaff.wisc.edu  
Margaret Squires, ms24@ualberta.ca

**Location:** 250 C  
**9:30 am**  
Baines, S. B.; Fisher, N. S.; Cutter, L. S.; Martina, D. A.; Cutter, G. A.; **DIRECT UPTAKE OF DISSOLVED ORGANIC SELENIUM BY RIVERINE PHYTOPLANKTON INFERRED FROM SELENITE:C UPTAKE RATIOS AND SE:C IN SUSPENDED PARTICLES**  

**9:45 am**  
Cutter, G. A.; Cutter, L. S.; Doblin, M. A.; **DISSOLVED ORGANIC SELENIDE CYCLING IN CONTRASTING ECOSYSTEMS: OPEN OCEAN VERSUS TIDAL FRESHWATERS**  

**10:00 am**  
Dupont, C. L.; Nelson, R. K.; Moffett, J. W.; Ahner, B. A.; **EXUDATION OF NOVEL THIOLS BY COPPER-STRESSED EMILIANIA HUXLEYI**  

**10:15 am**  

**10:30 am**  
Cullen, J. T.; Moffett, J. W.; **THE BIOGEOCHEMICAL SPECIATION OF FE IN THE TROPICAL AND NORTH-WEST ATLANTIC**  

**11:00 am**  
Brzezinski, M. A.; Jones, J. L.; Bidle, K.; Azam, F.; **THE BALANCE BETWEEN SILICA PRODUCTION AND SILICA DISSOLUTION IN THE SEA. INSIGHTS FROM MONTEREY BAY, CALIFORNIA APPLIED TO THE GLOBAL DATA SET**  

**11:15 am**  
Mose, J. R.; Cornuelle, B. D.; DiLorenzo, E.; Haidvogel, D. B.; McWilliams, J. C.; Miller, A. J.; Stolzenbach, K. D.; Wilkin, J.; **RESOLVING NITROGEN, CARBON AND OXYGEN CYCLES FOR THE U.S. CONTINENTAL MARGIN WITH COUPLED CIRCULATION/ BIOGEOCHEMICAL MODELS**  

**11:30 am**  
Risgaard-Petersen, N.; **HOW DOES BENTHIC MICRO ALGAE AFFECT THE N-CYCLE?**  

**11:45 am**  
Ho, T.; Seyfarth, W. R.; Morel, F. M.; **THE CORRELATION BETWEEN CALCIFICATION AND P ACQUISITION IN EMILIANIA HUXLEYI**  

**12:00 pm**  
Yager, P. L.; Goodrich, A.; **CONTRIBUTIONS TO THE INORGANIC CARBON BUDGET OF ARCTIC OCEAN SURFACE WATERS: IMPLICATIONS FOR FRESHWATER INPUTS AND THE BALANCE OF AUTOTROPHY AND HETEROTROPHY**  

**2:15 pm**  
Squires, M. M.; Davito, K. J.; Petrone, R.; Macrae, M.; **EFFECT OF DROUGHT ON GREENHOUSE GAS EMISSIONS FROM POND/PEATLAND SYSTEMS WITH CONTRASTING HYDROLOGIC REGIMES, N. ALBERTA**  

**2:30 pm**  
Hughes, C.; Malin, G.; Turley, C. M.; Keely, B. J.; Nightingale, P. D.; Liss, P. S.; **OCEANIC ALKYL IODIDES: IS DEATH AND DEATH THE ANSWER?**  

**2:45 pm**  
Stewart, D. M.; Fisher, N. S.; Cochran, J. K.; Fowler, S. W.; Teyssie, J. L.; Cotret, O.; Masque, P.; **RADIOACTIVE POLONIUM, LEAD AND THORIUM AS TRACERS OF ORGANIC CARBON FLUX IN THE SURFACE OCEAN**

#### CS15: Fish

**Chair(s):** Benjamen Kennedy, benk@cc.usu.edu

**Location:** 251 C  
**9:30 am**  
Cowen, R. K.; Paris, C. B.; **THE ROLE OF LONG DISTANCE DISPERSAL VERSUS LOCAL RETENTION IN REPLISHING MARINE POPULATIONS**  

**9:45 am**  
Hunt von Herbing, L. Y.; **SEPARATING THE PHYSICAL AND PHYSIOLOGICAL EFFECTS OF TEMPERATURE ON SWIMMING IN MARINE FISH LARVAE.**  

**10:00 am**  
Paris, C. B.; Cowen, R. K.; Lindeman, K. C.; Ciarcia, R.; **MODELING LARVAL TRANSPORT FROM GROUPER (SERRANIDAE) AND SNAPPER (LUTJANIDAE) SPAWNING AOGREGATIONS IN THE MEOASAERIAN REGION**  

**10:15 am**  
Do Roberta, A.; Ryer, C. H.; Velozza, A.; Brodeur, R. D.; **DIFFERENTIAL EFFECTS OF TURBIDITY ON PREY CONSUMPTION OF PISCIVOROUS AND PLANKTIVOROUS FISH**  

**10:30 am**  
Kennedy, B. M.; Luettec, C.; **BENTHIC HABITAT SELECTION OF ENDEMIC WHITEFISH IN RELATION TO FOOD AVAILABILITY AND PREDAITON RISK IN BEAR LAKE, UTID**

#### CS21: Microbial Dynamics

**Chair(s):** David Smith, dcsmith@gso.uri.edu  
Jessica Morgan, jmorgan@vims.edu

**Location:** 151 DEF  
**2:15 pm**  
Buxton, D. K.; Gustafson, E.; Zhao, X.; Pemey, G.; **APPLICATION OF SPECIFIC AFFINITY THEORY TO CARBON FLYWHEEL HELPS EXPLAIN CONSTANT POPULATIONS, SMALL SPECIES NUMBERS AND LARGE TEMPERATURE EFFECTS.**  

**2:30 pm**  
McManus, G. B.; Zhang, H.; **STROMBIDIUM OCULATUM, A PLANKTONIC TIDE POOL CILIATE THAT OBTAINS “SLAVE” CHLOROPLASTS FROM MACROALGAE**  

**2:45 pm**  
Morgan, J. A.; Quinby, H. L.; Hansell, D. A.; Ducklow, H. W.; **BACTERIAL ABUNDANCE AND PRODUCTION IN THE BLACK SEA**  

**3:00 pm**  
Starosjik, A. M.; Smith, D. C.; **SEASONAL DYNAMICS OF BACTERIAL AND PHYTOPLANKTON COMMUNITY STRUCTURE OVER THE WINTER/SPRING PERIOD IN NARRAGANSETT BAY, RHODE ISLAND, USA**  

**3:15 pm**  
Cottrell, M. T.; Kirchman, D. L.; **VARIATION IN SINGLE-CELL ACTIVITY, CELL VOLUME AND ABUNDANCE OF THE MAJOR BACTERIAL GROUPS IN THE DELAWARE ESTUARY**

(*) represents Invited presentations
4:00 pm  Kirkebo, T.; Tang, K.; Grossart, H. P.; Ploug, H.: MICROBIAL DYNAMICS ON MARINE SNOW: COLONIZATION, GROWTH, DETACHMENT, AND GRAZING MORTALITY OF ATTACHED MICROORGANISMS

4:15 pm  Smith, D. C.; Starosick, A. M.: FIELD EVIDENCE FOR SELECTIVE FEEDING OF THE HETEROTROPHIC DINOFLAGELLATE NOCTILUCA SCINTILLANS ON BACTERIA


4:45 pm  Hewson, I.; Fuhrman, J. A.: VIRUS EFFECTS ON BACTERIAL COMMUNITIES IN SHALLOW COASTAL BENTHOS

5:00 pm  Wommack, K. E.; Williamson, K. E.; Winget, D. M.; White, R.; Helton, R. R.; Kirchman, D. L.: AN IMPROVED METHOD FOR ESTIMATION OF VIRIOPANKTON PRODUCTION

CS29: Phytoplankton & Primary Production

Chair(s): James Grover, grover@uta.edu
Steven Lohrenz, Steven.Lohrenz@usm.edu
Heidi Sosik, hsosik@whoi.edu
Virginia Armbrust, armbrust@ocean.washington.edu

Location: 151 ABC

9:30 am  Sommer, U.; Sommer, F.; Hansen, T.: MESOZOOPLANKTON IMPACT ON PHYTOPLANKTON NUTRIENT STATUS

9:45 am  Grover, J. P.; Chrzanowski, T. H.: LIMITING RESOURCES, DISTURBANCE, AND DIVERSITY IN PHYTOPLANKTON COMMUNITIES

10:00 am  Lohrenz, S. E.; Kelly, K. A.; Fahnenstiel, G. L.; Millie, D. F.: PHYTOPLANKTON TAXON-SPECIFIC DIFFERENCES IN LIGHT ABSORPTION AND RELATIONSHIPS TO COMMUNITY STRUCTURE IN LAKE MICHIGAN

10:15 am  Dousova, H.; Behrenfeld, M. J.; Prazi, O.; Worthington, K. K.: PHOTOCACCUMULATION STRATEGIES OF MARINE PHYTOPLANKTON UNDER SIMULATED NATURAL LIGHT CONDITIONS

10:30 am  Grant, T.; Anderson, J. T.: THE ROLE OF MIXTOPHYIN IN A COASTAL ESTUARINE ECOSYSTEM


11:15 am  Peterson, T. D.; Harrison, P. J.: EDDY EDGE ENRICHMENT: INFLUENCE OF WATER MASS MIXING ON PHYTOPLANKTON DYNAMICS AT OCEAN FRONTS

11:30 am  Holl, C. M.; Montoya, J. P.: INTERACTIONS BETWEEN NITRATE UPTAKE AND NITROGEN FIXATION IN TRICHOEDIMUS

11:45 am  Schliajka, M. N.; Gentilhomme, V.; Seuront, L.: DIFFERENTIAL INFLUENCE OF MICROSCALE TURBULENCE ON TWO DIFFERENT MARINE PHYTOPLANKTONIC SPECIES

12:00 pm  Rick, J. J.; Rick, S.: PHYTOPLANKTON COMMUNITY RESPONSE TO NUTRIENT ENRICHMENT IN AN ESTUARINE COASTAL REGION INFLUENCED BY PULSED RIVER DIVERSIONS (CAERNARVON, LOUISIANA)

2:15 pm  von Dassow, P.: DINOFLAGELLATE BIOLUMINESCENCE STIMULATED BY DEVELOPING FLOW FIELDS

2:30 pm  Prasili, O.; Behrenfeld, M. J.: THE POSSIBLE SOURCES OF THE OBSERVED POSITIVE CORRELATION BETWEEN LIGHT LIMITED AND LIGHT SATURATED PHOTOSYNTHESIS

2:45 pm  Corso, G.; Griffiths, B.; Matear, R. J.: SILICATE AND PHYTOPLANKTON FLUORESCENCE IN THE SOUTHERN OCEAN: AN EXCITING PROSPECTIVE

3:00 pm  Perry, M. J.; Eriksen, C. C.; Sackmann, B. S.: SEAGLIDER AUTONOMOUS OBSERVATIONS OF PHYTOPLANKTON ABUNDANCE IN WATERS OFF THE WASHINGTON COAST, USA, IN SPRING 2002

3:15 pm  Olson, R. J.; Sosik, H. M.: IMAGING IN FLOW TO IMPROVE THE RESOLUTION OF PUMP-DURING-PROBE MEASUREMENTS OF PHYTOPLANKTON PHOTOSYNTHETIC CHARACTERISTICS

4:00 pm  Sosik, H. M.; Olson, R. J.; Neubert, M. G.; Shalapyonok, A.; Solow, A. R.: GROWTH RATES OF COASTAL PHYTOPLANKTON FROM TIME-SERIES MEASUREMENTS WITH A SUBMERSIBLE FLOW CYTOMETER

4:15 pm  Macintyre, H. L.; Kana, T. M.; Suggrett, D.; Geider, R. J.: A COMPARISON OF ESTIMATES OF MICROALGAL PHOTOSYNTHESIS, AS MEASURED BY 14C UPTAKE, 18O/18O EXCHANGE AND ACTIVE FLUORESCENCE


4:45 pm  Roberts, B. J.; Cole, J. J.; Pace, M. L.; Bade, D. L.; Van de Bogert, M. C.: DIEL RESPIRATION MEASURED USING STABLE OXYGEN ISOTOPES IN FERTILIZED, CLEAR, AND COLORED LAKES

5:00 pm  Armbrust, E. V.; Shalapyonok, A.; Olson, R. J.: GENETIC DIVERSITY OF EUKARYOTIC PICO- AND NANO-PHYTOPLANKTON COMMUNITIES IN THE SARGASSO SEA

CS33: Sediment-Water Interactions

Chair(s): Mark Alperin, alperin@email.unc.edu

Location: 250 C

4:00 pm  Alperin, M. J.; Nie, Y.: SEDIMENT-WATER COLUMN INTERACTIONS IN A SHALLOW, EUTROPHIC ESTUARY: A MULTI-SPECIES REACTION-TRANSPORT MODEL FOR SEDIMENT AND THE LOWER BENTHIC BOUNDARY LAYER

4:15 pm  Davyd, A. H.; Christo, N. J.: PORE-WATER OXYGEN DISTRIBUTIONS IN WESTERN ARCTIC OCEAN MARGIN SEDIMENTS.
4:30 pm  | Green, M. A.; Jones, M. E.; Boudreau, C. L.: INFLUENCE OF CARBONATE DISSOLUTION ON SURVIVAL OF SHELL-BEARING MIOCENOBTHOS IN NEARSHORE SEDIMENTS

4:45 pm  | Blodau, C.: SPATIAL PATTERNS OF NEUTRALIZATION PROCESSES IN ACIDIC MINE LAKES: CONTROLLED BY GROUND WATER INFLOW

**CS39: Zooplankton**  
Chair(s): Cynthia Suchman, cynthia.suchman@noaa.gov  
Sandra Connelly, sjc25@buffalo.edu  
Deborah Steinberg, debbies@vims.edu  
Michael Brett, mbrett@u.washington.edu  
Russel Hopcroft, hopcroft@ims.uaf.edu  
Location: 251 DE

9:30 am  | Brett, M. T.; Ballantine, A. P.; Müller-Navarra, D. C.: BIOCHEMICAL CONTROL OF HERBIVOROUS ZOOPLANKTON GROWTH: DAPHNIA PULEX RESPONSES TO NATURAL SESTON COMPOSITION IN SEATTLE AREA LAKES

9:45 am  | Anson, J. M.; Schindler, D. E.; Schuette, M. D.; Hampton, S. E.: PREDATOR SWITCHING AND COMMUNITY CONSEQUENCES OF INTERANNUAL VARIABILITY IN DAPHNIA POPULATIONS

10:00 am  | Lloyd, S. S.; Roman, M. R.: EGG PRODUCTION BY THE COPEPOD EUKYTEMORA AFFINIS IN THE CHESAPEAKE BAY TURBIDITY MAXIMUM REGION AS A FUNCTION OF FOOD QUALITY

10:15 am  | Hopcroft, R. E.; Clarke, C.; Pinchuk, A. I.; Byrd, A. G.: EGG PRODUCTION RATES OF METRIDA PACIFICA AND METRIDA OKHOTENISI IN THE GULF OF ALASKA

10:30 am  | Caceres, C. E.; Tesser, A. J.: TO BE (DORMANT) OR NOT TO BE (DORMANT): LIFE HISTORY TRADEOFFS IN DAPHNIA PULICARIA

**SS1.02: Coastal Indicators of Water Quality and Ecological Condition**

Chair(s): Hans W. Paerl, hans paerl@unc.edu  
Gerald J. Nami, nami@nmsu.mrrn.unr.edu

Location: 251 AB

9:30 am  | Kerkof, Lee, J.; McGuinness, L.,; Tran, H.,; ASSESSING ACTIVE BACTERIA BY FINGERPRINTING RIBOSOMES DURING A DAY/NIGHT CYCLE AT LEO-15

9:45 am  | Milbrandt, E. C.; Shapiro, L. S.,; GENETIC DIVERSITY OF BACTERIA IN RESTORED AND MATURE ESTUARINE SEDIMENTS

10:00 am  | Scholin, C.; Massion, E.; Jensen, S.; Marin III, R.; Cline, D.; Roman, R.: APPLICATION OF MOLECULAR PROBES AND THE ENVIRONMENTAL SAMPLE PROCESSOR (ESP) FOR REMOTE DETECTION OF MICROORGANISMS IN SITU


10:30 am  | Fossing, H.; Berg, P.: THE RESPONSE OF MARINE AND ESTUARINE SEDIMENTS TO REDUCED ORGANIC LOADS

11:00 am  | Lee, C. L.; Romero, I.; Vargas, M.; Jacobson, N.; Rudnick, G.; Smallwood, B. J.; Jacobson/Meyers, M. E.: SEDIMENT ENZYME ANALYSIS AS A TOOL TO DETERMINE NUTRIENT AVAILABILITY CHANGES ACROSS ENVIRONMENTS IN TIME AND SPACE IN A MANGROVE ECOSYSTEM


11:30 am  | Wei, L.; Donat, J. R.; Fones, G.; Ahner, B. A.; Ahner, B. A.: PHYTOCHELATIN PRODUCTION IN RESPONSE TO HEAVY METAL STRESS IN MARINE PHYTOPLANKTON

11:45 am  | Marshall, H. L.; Morris, J. T.: XANTHOPHYLL PIGMENTS AND THEIR APPLICATION TO REMOTE SENSING OF ENVIRONMENTAL QUALITY

12:00 pm  | Kimmel, D. G.; Roman, M. R.: WEATHER PATTERNS AS INDICATORS OF MESOZOOPLANKTON DYNAMICS IN THE CHESAPEAKE BAY

2:15 pm  | Kiesling, T.L.; Fell, J.; Orther, P. B.: COMMUNITY DYNAMICS OF COPEPOD NAUPILI IN FLORIDA BAY

2:30 pm  | Jung, S.; Houde, E. D.: FISH BIOMASS SIZE SPECTRA AS INTEGRATIVE INDICATORS OF ECOSYSTEM STATE AND COMMUNITY STRUCTURE IN CHESAPEAKE BAY


3:00 pm  | Gobler, C. J.; Sanudo-Wilhelmy, S. A.; Sieracki, M. E.; Burk, N. J.: IMPACTS OF NUTRIENT LOADING ON PHYTOPLANKTON COMMUNITIES ACROSS LONG ISLAND SOUND


4:00 pm  | Sylvan, J. B.; Oulig, A.; Tozzi, S.; Natalle, F.; Kolber, Z.; Ammerman, J. W.: EXTENSIVE EVIDENCE OF SUMMER PHOSPHORUS LIMITATION IN THE MISSISSIPPI RIVER PLUME

4:15 pm  | Green, P. G.; Higashi, R. M.; Fan, T. W.: MOBILIZATION OF METALS FROM SALT MARSH SEDIMENTS BY EURYHALINE PLANTS

4:30 pm  | O’Malley, R.; Cavenagh-Bares, K. K.: THE HEINZ CENTER#8127’S STATE OF THE NATION#8127;S ECOSYSTEMS REPORT: KEY DATA GAPS AND RESEARCH ISSUES FOR COASTS AND OCEANS


5:00 pm  | Young-Williams, A. C.; Davis, J. L.; Hines, A. H.; Zohar, Y.: FISHERIES AND POPULATION STUDIES IN CRUSTACEANS: COMPARING THE EFFICIENCY OF TWO TYPES OF LONG-TERM INTERNAL TAGS IN JUVENILE BLUE CRABS (CALLINECTES SAPIDUS)

(*) represents Invited presentations
SS1.04: Impacts of Changing Land Use on Aquatic Ecosystems
Chair(s): G.S. Kleppel, gkleppel@albany.edu
Location: 150 DEF
10:00 am Delvoe, M. R.: THE LAND USE-COASTAL ECOLOGY STUDY: MINIMIZING ECOLOGICAL IMPACTS IN RAPIDLY URBANIZING COASTAL REGIONS.
10:15 am Sibley, S.; Windom, H.; Ruppel, C.: HETEROGENEITY IN SALT MARSH HYDROLOGY AND IMPACT ON DISSOLVED URANIUM.
11:00 am Weston, N. B.; Joye, S. B.; P ouruesky, W. P.: SHALLOW MARSH GROUNDWATER BIOGEOCHEMISTRY AND DSSOLVED ORGANIC MATTER LABILITY.
11:30 am Chandler, T.; Decho, A.; Fulton, M.; Leb, P.; Maruya, K.; Scott, G.: ECOTOXICOLOGY RISKS OF LAND-BASED POLLUTION SOURCES ENTERING ESTUARINE TIDAL CREEKS.
11:45 am Kleppel, G. S.; Hartwell, A. L.: URBAN TYPOLOGY AND ECO SYSTEM FUNCTION: DO SMALL TOWNS AND SUBURBS HAVE DIFFERENT IMPACTS ON FRESHWATER WETLANDS?
12:00 pm Leland, H. V.; Hawkins, C. P.; Selle, A. R.; Griffith, M. B.; Viger, J. M.: BIOLOGICAL INTEGRITY OF STREAMS IN THE SOUTHERN ROCKY MOUNTAINS.
2:30 pm Wilson, F. K.; Jackson-Pringle, J. A.: USE OF REMOTE SENSING/GIS TO DETERMINE THE EFFECTS OF LAND-COVER/LAND-USE CHANGE ON THE HEALTH OF OTTER POINT CREEK, MD, USA.
2:45 pm Brattebo, B. O.; Brett, M. T.: STREAM WATER PHOSPHORUS TRANSPORT DURING STORM EVENTS OVER A RANGE OF LAND USE CONDITIONS.
3:00 pm Kremer, J. N.; Currie, W.; Brawley, J.: EVALUATING THE GENERALITY OF A MODEL OF ESTUARINE RESPONSES TO NITROGEN LOADING.
3:15 pm Beagley, R. E.; Melack, J. M.; Dunne, T.: ANNUAL AND INTERANNUAL STREAMFLOW VARIABILITY FOR COASTAL WATERSHEDS WITH A MEDITERRANEAN CLIMATE IN RELATION TO LAND USE CHANGE AND CLIMATE VARIABILITY.
4:00 pm Burkholder, J. M.; Glasgow, H. B.; Reed, R. E.; Kinder, C. A.; Mella, G. M.; Tomis, D. G.; Cooney, D. A.: WATER QUALITY TRENDS IN THE NEILUSE ESTUARY BASED ON A DECADAL, INTENSIVE DATASET.
4:15 pm Grenshaw, M. C.; Brugam, R. B.: PALEOLIMNOLOGICAL PERSPECTIVE OF LOCAL AND REGIONAL PROCESSES INFLUENCING FLOODPLAIN LAKES.
4:30 pm Andrade, E.; Blanton, J. O.; Ferreira, M. A.: A DIGITAL ELEVATION MODEL OF A TIDAL CREEK AND ITS RELATIONSHIP TO TIDAL CIRCULATION.

SS2.01: The Limits to Paleolimnology? Linking Sedimentary Records with Contemporary Process-based Studies
Chair(s): Daniel Engstrom, dengstrom@smr.org
Richard Battarbee, r.battarbee@ucl.ac.uk
Location: 251 C
2:15 pm Anderson, N. J.; Engstrom, D. R.: THE LIMITS TO PALEOLIMNOLOGY - ARE WE STUCK IN THE MUD?
2:45 pm Jordan, P.; Rippey, B.; Anderson, N. J.: TESTING LAKE PHOSPHORUS MODELS USING PALEOLIMNOLOGICAL RECONSTRUCTIONS.
3:00 pm Triplett, L. D.; Edlund, M. B.; Engstrom, D. R.: A WHOLE-BASIN SEDIMENT AND POLLUTANT MASS BALANCE FROM A NATURALLY IMPOUNDED LARGE RIVER SYSTEM IN THE UPPER MISSISSIPPI RIVER BASIN.
3:15 pm Leavitt, P. R.: CHANGE, CHANCE AND CAUSATION: THE ROLE OF PALEOECOLOGY IN DEFINING ECOSYSTEM VARIABILITY.
4:00 pm Michel, T. J.; Saros, J. E.; Interland, S. J.; Wolfe, A. P.: RECONSTRUCTING NUTRIENT CONCENTRATIONS IN LAKES OF THE BEARTOOTH MOUNTAINS (MT/WY) USING ALGAL RESOURCE PHYSIOLOGIES.
4:15 pm Kamenik, C.; Schmidt, R.: CHRYSOPTHE STOMATOCYSTS AND DATE OF SPRING MIXING: IMPROVING A CLIMATE RECONSTRUCTION MODEL USING SEDIMENT TRAPS.
4:30 pm Jankowski, T.; Straile, D.: A COMPARISON OF EGG-BANK AND LONG-TERM PLANKTON DYNAMICS OF TWO DAPHNIA SPECIES: POTENTIALS AND LIMITS OF RECONSTRUCTION.
4:45 pm Battarbee, R. W.: DECADAL CHANGE IN LAKE ECOSYSTEMS: PAST, PRESENT AND FUTURE.

SS3.05: Significance of Small-scale Benthic Processes for Large Ecosystems
Chair(s): Douglas C. Miller, dmliller@udel.edu
Kevin R. Carman, zocarm@lsu.edu
Location: 150 G
9:30 am Maddi, P.; Carman, K. R.; Fry, B.; Wissel, B.: USE OF PRIMARY PRODUCTION BY MICOFAUNA IN A LOUISIANA MUD-FLAT FOOD WEB.
10:00 am Demopoulos, A. W.; Smith, C. R.; Fry, B.; Crawford, L.: BENTHIC COMMUNITY COMPOSITION AND FOOD-WEB STRUCTURE IN NATIVE AND INTRODUCED MANGROVE FORESTS: COMPARISONS BETWEEN PUERTO RICO AND HAWAII

10:15 am Lee, A. R.; Pinckney, J. L.: A SPATIAL STUDY OF BENTHIC MICROALGAE IN AN INTERTIDAL SANDFLAT AT EAST BEACH, GALVESTON BAY, TEXAS

10:30 am Linares, F.; Dissovled Free Amino Acids (DFAA) AS A NITROGEN SOURCE FOR MICROPHYTOBENTHOS IN SEDIMENTS

11:00 am Sundbäck, K.; Linares, F.; Larson, F.; Wulff, A.; Engelsen, A.: NITROGEN FLUX, DENITRIFICATION AND MICROPHYTOBENTHIC NITROGEN RETENTION IN SEDIMENTS ALONG A DEPTH GRADIENT IN A MICROTIDAL FJORD

11:15 am Larson, F. M.; Sundblad, K.: RESILIENCE AFTER HYPOXIA IN THE MICROPHOTOBIOTIC COMMUNITY OF A SHALLOW-WATER MICROTIDAL SEDIMENT SYSTEM

11:30 am Hatch, L. K.; O’Connor, B. L.; Brezonik, P. L.: DENITRIFICATION IN AGRICULTURAL STREAMS: A COMPARISON OF IN SITU METHODS

11:45 am Baker, M. A.; Hall, R. O.; Wurtsbaugh, W.; NITRATE UPTAKE DURING SNOWMELT IN A MOUNTAIN STREAM-LAKE ECOSYSTEM

12:00 pm Rick, S.; Twilley, R. R.; Baker, J. A.: BENTHIC NUTRIENT FLUXES IN A COASTAL WATERSHED INFLUENCED BY PULSED RIVER DIVERSIONS (CAERNARVON, LOUISIANA)

2:15 pm Marcarel, A. M.; Wurtsbaugh, W. A.; Baker, M. A.: A COMPARATIVE STUDY OF NITROGEN-FIXATION RATES IN Oligotrophic Lakes and Streams of the Sawtooth Mountains, Idaho

2:30 pm Thomas, F. I.; Cornell, C. D.: HYDRODYNAMIC EFFECTS ON NUTRIENT UPTAKE BY THE BENTHOS: LINKS BETWEEN SMALL-SCALE PROCESSES AND NUTRIENT TRANSPORT IN ESTUARINE AND NEARSHORE SYSTEMS

2:45 pm Engstrom, S.; L.; Marinelli, R. L.: RECRUITMENT RESPONSES TO SMALL SCALE GRADIENTS IN SEDIMENTARY HABITATS: A NEW EXPERIMENTAL METHOD AND INITIAL RESULTS

3:00 pm Ackerman, J. D.: BIOPHYSICAL STRUCTURING OF HYDRAULIC HABITATS: SUBSTRATE-FLOW-PHYRINTACTION IN STREAMS

3:15 pm Hamblen, J. M.; Burns, I. S.; Conklin, M. H.: TRIGGERS OF AEROBIC MICROBIAL METABOLISM WITHIN PARAFUNIGAL SEDIMENTS DURING MONSOONAL RAINS IN A SEMI-ARID RIPARIAN SYSTEM, UPPER SAN PEDRO RIVER, ARIZONA

4:00 pm Hunt, H. L.; Chant, R. J.: TIDAL TRANSPORT OF POSTLARVAL BIVALVES IN A FLOOD-DOMINATED ESTUARY

4:15 pm Friis, J. S.; Taghon, G. L.; . . .: EFFECT OF RIPPLES AND BEDLOAD ON FINE PARTICLE DEPOSITION TO PERMEABLE SEDIMENT BEDS

4:30 pm Buesing, N. J.; Geesner, M. O.; CONTRIBUTION OF MICROBIAL SECONDARY PRODUCTION TO THE CARBON FLOW IN A LITTORAL REED BED

4:45 pm D’Andrea, A. E.: IMPACTS OF Bioturbation BY BURROWING SHRIMP ON CHLOROPHYLL A PROFILES IN SEDIMENTS OF YAQUINA BAY, OR – IMPLICATIONS FOR INTERTIDAL BENTHIC ALGAL PRODUCTIVITY

SS3.07: Does Microbial Diversity Matter in Ecosystem Function?
Chair(s): Bess Ward, bbw@princeton.edu
Location: 151 G

9:30 am Kemp, P. F.; Aller, J. V.: IS BACTERIAL DIVERSITY UNDERESTIMATED? A META-ANALYSIS OF PUBLISHED DATA

10:00 am Jackson, G. A.; Background to System Complexity and Function in the Microbial World


10:30 am Vovtek, M. A.; Kirshtein, K. D.: SPATIAL AND TEMPORAL PATTERNS OF GENOTYPIC DIVERSITY IN AMMONIUM-OXIDIZING BACTERIA IN THE CHESAPEAKE BAY AND ONE OF ITS TRIBUTARIES

11:00 am Collier, J. L.: Baker, K. M.: DIVERSITY AND DISTRIBUTION OF UREA-DEGRADING MICROORGANISMS IN CHESAPEAKE BAY

11:15 am Falcon, L. J.; Carpenter, E. J.; Cipriano, F.; Bergman, B.; Capone, D. G.; NZ FIXATION BY UNICELLULAR CYANOBACTERIA IN THE TROPICAL NORTH ATLANTIC OCEAN

11:30 am Burns, J. A.; Capone, D. G.: RESPONSE OF NITROGENASE ACTIVITY AND DIAZOTROPHIC COMMUNITY STRUCTURE TO REMOVAL OF AMMONIUM AND ADDITION OF GLUCOSE

11:45 am Jenkins, B. D.; Steward, G. F.; Short, S. M.; Ward, B. B.; Zehr, J. P.: DYNAMICS OF ESTUARINE DIAZOTROPH COMMUNITIES ASSAYED WITH DNA MACROARRAYS

12:00 pm Francis, C. A.; Cornwell, J. C.; Ward, B. B.: LINKING NITRITE REDUCTASE DIVERSITY TO ENVIRONMENTAL GRADIENTS AND ECOSYSTEM FUNCTION IN THE CHESAPEAKE BAY

12:15 pm Franck, V. M.; Bozinski, M. A.: SPECIES-SPECIFIC SILICA PRODUCTION ESTIMATES FROM DIATOM ASSEMBLAGES IN THE EASTERN TROPICAL PACIFIC

2:15 pm Aiken, A. E.; Ward, B. B.; Booth, M. G.; Frischer, M. E.; Verity, P. G.; Bronk, D. A.: RELATIONSHIP BETWEEN WATER COLUMN NITRATE UPTAKE AND COMMUNITY STRUCTURE BASED ON ASSIMILATORY NITRATE REDUCTASE GENES IN HETEROPTROPH BACTERIA AND DIATOM


3:00 pm Song, B.; Ward, B. B.: HIGH AFFINITY NITRATE TRANSPORTERS IN MARINE PHYTOPLANKTON

3:15 pm Takabayashi, M.; Wilterson, F. P.: EVALUATING CARBON AND NITROGEN ASSIMILATION BY DIATOMS USING MOLECULAR PROBES

(*) represents Invited presentations
3:30 pm Arnosti, C.; Durkin, S.; Jeffrey, W. H.: ASSESSING THE FUNCTIONAL DIVERSITY OF MICROBIAL EXTRACELLULAR ENZYMES: EVIDENCE FOR GEOGRAPHIC PATTERNS AND IMPLICATIONS FOR DOC CYCLING

4:00 pm Twining, B. S.; Beines, S. B.; Fisher, N. S.; Landry, M. R.: OPENING THE ‘BLACK BOX’: ELEMENTAL STOICHIOMETRIES OF AUTOTROPHIC AND HETEROTROPHIC PROTESTS IN THE SOUTHERN OCEAN


5:00 pm Kolber, Z. S.; Koblikz, M.; Falkowski, P. G.: AEROBIC PHOTOSYNTHETIC PHOTOHETEROTROPHS: A DEAD CLADE WALKING?

SS3.20:
Landscape and Land-use Influences on Methylmercury Contamination of Aquatic Resources

Chair(s): James Wiener, wiener.jame@uwfiax.edu
David Krabbenhoft, dplkrabbe@usgs.gov

Location: 250 AB

9:30 am Krabbenhoft, D. P.; Orem, W.; Aiken, G. R.; Gilmour, C. C.: LAND MANAGEMENT AND ECOSYSTEM EFFECTS OF METHYL-MERCURY PRODUCTION AND BIOACCUMULATION IN THE FLORIDA EVERGLADES

9:45 am Lange, T. R.; Richard, D. A.; Sargent, B. E.: INTERACTIONS OF TRIPHIC POSITION AND HABITAT WITH MERCURY BIOACCUMULATION IN FLORIDA EVERGLADES LARGEMOUTH BASS

10:00 am Wiener, J. G.; Jeremiason, J. D.; Knights, B. C.; Rolthuis, K. R.; Sandheimrich, M. B.; CONNECTED WETLANDS INFLUENCE METHYL-MERCURY CONCENTRATIONS IN LACOSTINE FOOD WEBS IN THE VOYAGEURS NATIONAL PARK (MINNESOTA, USA)

10:15 am Sandheimrich, M. B.; Dreneck, P. E.; Wiener, J. G.; Knights, B. C.; Jeremiason, J. D.: VARIATION IN REPRODUCTIVE HORMONES OF MALE NORTHERN PIKE ACROSS A LANDSCAPE GRADIENT IN METHYL-MERCURY EXPOSURE

10:30 am Marvin-DiPasquale, M. C.; Kieu, L. H.; Agee, J. L.; Harris, H. A.; Jaffe, B. E.: THE RHIZOSPHERE: A DYNAMIC ZONE FOR MERCURY TRANSFORMATIONS IN SALT MARSHES

11:00 am Kelly, C. A.; Rudd, J. W.; Holoka, M.: THE EFFECT OF PH ON HG(III) UPTAKE BY AN AQUATIC BACTERIUM AND IMPLICATIONS FOR HG CYCLING IN LAKES


12:00 pm Thomas, B. A.; Gustin, M. S.: IDENTIFYING THE SOURCES OF TOTAL AND METHYL MERCURY IN THE ANTHROPOGENICALLY IMPACTED STEAMBOAT CREEK, NEVADA, USA

2:15 pm Shimerkovic, J.; Gustin, M. S.; Bennett, K. E.: NET METHYLMERCURY PRODUCTION IN CONSTRUCTED WETLANDS WITH THREE EXPERIMENTAL DESIGNS AT STEAMBOAT CREEK (NEVADA, USA)


3:00 pm Rolthuis, K. R.; Hurley, J. P.; Krabbenhoft, D. P.: MERCURY FLUXES AND SEDIMENT TRENDS FROM INUNDATED SOILS OF UPLAND BOREAL FOREST RESERVOIRS

3:15 pm Hall, B. D.; St.Louis, V. L.; Bodaly, R. A.; Rudd, J. W.; Kelly, C. A.: INCREASES IN EXPORTS OF METHYLMERCURY FROM RESERVOIRS CREATED OVER UPLAND FOREST AND WETLAND LANDSCAPES


4:15 pm Blanchfield, P. J.; Paterson, M. J.; Podleski, C. L.; Hintelmann, H. H.; Rudd, J. W.: HOW DO CHANGES IN ATMOSPHERIC MERCURY DEPOSITION AFFECT METHYL-MERCURY ACCUMULATION BY BOTA? INITIAL RESULTS FROM THE METALICUS EXPERIMENT

4:30 pm Aiken, G. R.; MASON, R. P.; Hayes, D. B.; Miller, C. L.; Peariack, M. R.: THE INFLUENCE OF MICROBIAL ACTIVITY AND HG GEOCHEMISTRY ON THE PRODUCTION OF METHYLMERCURY IN BOREAL WATERSHEDS

4:45 pm Branfireun, B. A.; Krabbenhoft, D. P.; Hayes, A.: ASSESSING THE INFLUENCE OF BOREAL UPLAND ENVIRONMENTS ON MERCURY TRANSPORT AND SPECIATION: AN EXPERIMENTAL STABLE ISOTOPIC APPROACH

() represents Tutorial presentations
SS4.01: Saline Lakes - Microbial Ecology and Biogeochemistry
Chair(s): James T. Hollibaugh, aquadoc@uga.edu
Location: 151 DEF
9:30 am Oremland, R. S.: A PARADOX: ARSENIC OXYANIONS ARE IMPORTANT FACTORS IN THE MICROBIAL BIOENERGETICS OF MONO LAKE, CALIFORNIA(*)
9:45 am Steward, G. F.; Zehr, J. P.; Jenkins, B. D.; Montoya, J. P.; Jellison, R. S.; Hollibaugh, J. T.: DIVERSE NITROGEN-FIXERS, BUT UNDETECTABLE NITROGEN FIXATION IN ALKALINE, HYPERSALINE, MEROMICTIC MONO LAKE, CALIFORNIA
10:00 am Giri, B. J.; Bano, N.; Hollibaugh, J. T.: PHYLOGENETIC DIVERSITY OF RUBISCO GENE ALONG REDOX GRADIENT IN MONO LAKE, USA
10:15 am Carini, S. A.; Joye, S. B.: PATTERNS OF AEROBIC METHANE OXIDATION AND METHANOTROPH COMMUNITY COMPOSITION DURING DEVELOPMENT OF THERMAL STRATIFICATION IN MONO LAKE, CALIFORNIA
11:00 am Van Hove, P.; Vincent, W. F.; Wilmotte, A.: DISTRIBUTION AND MOLECULAR ECOLOGY OF PICOCYANOBACTERIA IN HIGH ARCTIC MEROMICTIC LAKES
11:15 am Doran, P. T.; Priscu, J. C.; McKay, C. P.; Fritsen, C. H.: LAKE VIDA: AN ICE-SEALED SALINE LAKE IN ANTARCTICA
11:30 am Foreman, C. M.; Lyons, W. B.; Wolf, C. F.; Priscu, J. C.: MICROBIAL BIOGEOCHEMISTRY OF LAKES IN THE MCMURDO DRY VALLEYS OF ANTARCTICA
11:45 am Sorokin, D. Y.; Osburn, C. L.; Fritz, S. C.: THE ROLE OF DISSOLVED ORGANIC MATTER IN REGULATING PRIMARY PRODUCTION IN SALINE LAKES OF THE GREAT PLAINS (USA)
12:00 pm Sorokin, D. Y.; Muyzer, G.; Kuenen, J. G.: CULTURABLE FORMS OF SULFUR-OXIDIZING BACTERIA IN HYPERSALINE LAKES IN SOUTH SIBERIA AND MONGOLIA

SS4.06: Diversity, Ecology, and Biogeochemistry of Microbial Mats and Stromatolites
Chair(s): Ferran Garcia-Pichel, ferran@asu.edu
Location: 251 DE
11:00 am Visscher, P. T.: UNDERSTANDING MICROBIAL MATS: SPATIAL AND TEMPORAL FLUCTUATIONS OF METABOLIC PROCESSES(*)
11:30 am Des Marais, D. J.; Bebout, B. M.; Carpenter, S.; Discipulo, M.; Turk, K.: CARBON AND OXYGEN BUDGETS OF HYPERSALINE CYANOBACTERIAL MATS: EFFECTS OF DEL CYCLE AND TEMPERATURE
11:45 am Albert, D. B.; Hoehler, T. M.; DesMarais, D. J.; Turk, K. A.; Bebout, B. M.: ORGANIC ACID FLUXES FROM CYANOBACTERIAL MATS OVER DIEL CYCLES WITH NIGHTTIME ANOXIA
12:00 pm Bebout, B. M.; Carpenter, S. P.; Hogan, M. E.: THE EFFECTS OF LOW SULFATE CONCENTRATIONS ON MODERN MICROBIAL MAT COMMUNITIES: A LONG TERM MANIPULATION
2:15 pm Thamdrup, B.; Bebout, B. M.; Des Marais, D. J.: THE EFFECT OF SULFATE CONCENTRATION ON SULFUR CYCLING IN A PHOTOTROPHIC HYPERSALINE MICROBIAL MAT
2:30 pm Lee, R. Y.; Joye, S. B.: THE IMPORTANCE OF MICROBIAL MATS IN THE C AND N CYCLE OF MANGROVE ECOSYSTEMS
2:45 pm Lawson, J. L.; Doran, P. T.: STABLE ISOTOPE GEOCHEMISTRY OF MICROBIAL MATS AND SEDIMENTS IN TAYLOR VALLEY, ANTARCTICA
3:00 pm Jonkers, H. M.; Ludwig, R.; DeWitt, R.; DeBeaver, D.: CARBON CYCLING IN A HYPERSALINE MICROBIAL MAT: A FUNCTIONAL ANALYSIS
4:00 pm Sarøensen, K. B.; Canfield, D. E.; Teske, A.; Oren, A.: A MICROBIAL GARDEN WITHIN A GYPSUM CRUST: A BIOGEOCHEMICAL AND PHYLOGENETIC STUDY OF AN ENDOEVAPOTITIC, STRATIFIED BACTERIAL COMMUNITY FROM A SOLAR SALTERN
4:45 pm Ward, D. M.: MATS AS MODELS FOR STUDYING THE DIVERSITY, ECOLOGY, EVOLUTION AND PHYSIOLOGY OF MICROORGANISMS WITHIN MODERN AND ANCIENT MICROBIAL COMMUNITIES(*)

SS4.10: Geomicrobiology of Hydrothermal Vents
Chair(s): Katrina J. Edwards, kedwards@whoi.edu
Location: 150 DE
9:30 am Baross, J. A.: HYDROTHERMAL VENT MICROBIOLOGY: THE COEVOLUTION OF MICROORGANISMS AND THEIR GEO-ENVIRONMENT(*)
10:00 am Holland, M. E.; Shock, E. L.: CALCULATING THE EXTREMES OF MICROBIAL HABITATS IN DEEP-SEA HYDROTHERMAL SYSTEMS(*)

(*) represents Invited presentations
10:30 am  Amend, J. B.; Rusch, A.; Rogers, K. L.: HYPERTHERMOPHILES FROM VULCANO (ITALY): COMMUNITY COMPOSITION, NOVEL ISOLATES, AND GEOCHEMICAL CONSTRAINTS(*)
11:00 am  Skoog, A.; Vlahos, P.; Amend, J.: CONCENTRATION, DISTRIBUTION AND COMPOSITION OF DISSOLVED NEUTRAL ALDOSES IN A SHALLOW HYDROTHERMAL SYSTEM.
11:15 am  Skoog, A.; Vlahos, P.; Amend, J.: CONCENTRATION, DISTRIBUTION AND COMPOSITION OF DISSOLVED AMINO ACIDS IN A SHALLOW HYDROTHERMAL SYSTEM.
11:30 am  Aguilar, C.; Cuhel, R. L.: MICROBIOGEOCHEMICAL ECOPHYSIOLOGY OF THE YELLOWSTONE LAKE GEOTHERMAL ECO SYSTEM
11:45 am  Blake, R. E.; Coomber, S.; Surkov, A.: MICROBIAL ACTIVITY, P CYCLING, AND BIOMASS TEMPERATURE RECORDED IN DELTA O-18 OF PO4 IN DEEP-SEA HYDROTHERMAL VENT SYSTEMS.
12:00 pm  Emerson, D.: NEUTROPHILIC, MICROAEROBIC FE-OXIDIZING BACTERIA ISOLATED FROM THE LOIHI HYDROTHERMAL SITE.
2:15 pm  Rogers, D. R.; Edwards, K. J.: GEOMICROBIOLOGY OF BASALT WEATHERING: THE IRON STORY.
2:30 pm  Moyer, C. L.: SPATIAL AND TEMPORAL TRANSITIONS BETWEEN IRON- & SULFUR-OXIDIZING BACTERIA IN RESPONSE TO SEISMIC ACTIVITY AND VOLCANIC Eruptions AT TWO DIFFERENT VENT SYSTEMS(*)
2:45 pm  Sievert, S. M.; Wirsen, C. O.; Taylor, C. D.: DIVERSITY OF MICROORGANISMS INVOLVED IN FILAMENTOUS SULFUR FORMATION AT HYDROTHERMAL VENTS.
3:00 pm  Takai, K.: MODE OF SUBVENT BIOSPHERE IN VARIOUS DEEP-SEA HYDROTHERMAL SYSTEMS(*)
3:15 pm  Lam, P.; Cowen, J. P.; Jones, R. D.; Popp, B. N.: COMMUNITIES OF AUTOTROPHIC AMMONIA-OXIDIZING BACTERIA IN A SEDIMENTED VERSUS AN UNSEDIMENTED HYDROTHERMAL VENT SYSTEMS.
3:30 pm  Popp, B. N.; Cowen, J. P.; Jones, R. D.; Lam, P.; Rust, T. M.: THE FATE OF AMMONIUM IN HYDROTHERMAL PLUMES.

CS12: Coral Reefs (Posters)
Chair(s): Allison Beauregard, isopod@udel.edu
Location: Grand Ballroom (E-J)
169. Wegley, L.; Casas, V.; Kline, D.; Brettarlt, M.; Rohwer, F.: BACTERIAL COMMUNITIES ASSOCIATED WITH HEALTHY AND DISEASED ACROPORA SPP.

CS23: Molecular Biology (Posters)
Chair(s): Slava Epstein, s.epstein@neu.edu
Location: Grand Ballroom (E-J)
172. McCa Richmond, B.: GENE CLUSTERS REQUIRED FOR SWIMMING MOTILITY IN MARINE SYNECHOCoccus.

CS26: Organic Carbon Dynamics (Posters)
Location: Grand Ballroom (E-J)
176. State, E. G.; Cotner, J. B.: EVIDENCE OF P-LIMITED BACTERIAL CARBON CONSUMPTION IN LAKE SUPERIOR.
177. Gustafson, E.; Zhao, X.; Penney, G.; Robertson, B.; Button, D.: MICROBIAL ADAPTATIONS TO EXTREMELY OLIGOTROPHIC ENVIRONMENTS.

(*) represents Tutorial presentations.
CS36:
Ultraviolet Radiation (Posters)

Chair(s): Kenia Whitehead, kenia@u.washington.edu
Location: Grand Ballroom (E-J)
181. Sanders, R. W.; Sung, T.: TOLERANCE TO UV-B RADIATION IN A MARINE CILIATE: DARK REPAIR & PHOTOPROTECTION (DRPP) VERSUS PHOTOENZYMATIC REPAIR
182. Loadman, N.; Prosick, T.; Huebner, J.; Bollman, R.; Young, D.: EFFECTS OF UV RADIATION, COMPETITION AND UV-IRRADIATED FOOD ON SURVIVAL AND REPRODUCTION IN DAPHNIA MAGNA AND DAPHNIA PULAX IN LABORATORY EXPERIMENTS

CS40:
Physical Limnology - New Perspectives and Applications to Biogeochemistry and Productivity of Aquatic Ecosystems (Posters)

Chair(s): Sally MacIntyre, sally@icess.ucsb.edu
Location: Grand Ballroom (E-J)
184. Pasour, V. B.; Valdivia, F. R.; Elhner, S. P.; Cowen, E. A.: INTERACTION OF PLANKTON BEHAVIOR AND HYDRODYNAMICS in a Freshwater Embayment
185. Hansen, A. A.; Noernberg, P.; Merrison, J.; Lomstein, B. A.; Finster, K.: MARS SIMULATION FACILITY FOR MICROBIOLOGICAL EXPERIMENTS
188. Childress, T. D.; Setz, R. D.: THE EFFECTS OF SHORELINE DEVELOPMENT ON THE BENTHIC COMMUNITY AND ITS PREDATORS

SS4.01:
Saline Lakes - Microbial Ecology and Biogeochemistry (Posters)

Chair(s): James T. Hollibaugh, aquadoc@uga.edu
Location: Grand Ballroom (E-J)

SS4.03:
What is Special About Food Webs in Extreme Environments? (Posters)

Chair(s): Ursula Gaedke, gaedke@rz.uni-potsdam.de
Location: Grand Ballroom (E-J)
194. Dreher, R.; Spindler Joris, J.: FAST PLANKTON COMMUNITY RESPONSES IN A CHANGING PH AND PHOSPHORUS ENVIRONMENT.
195. Knick, K. E.; Van Dover, C. L.: CHARACTERIZATION OF MUSSEL BEDS AT BLAKE RIDGE METHANE HYDRATE SEEP

SS4.04:
Symbiosis and Syntrophy in Extreme Environments (Posters)

Chair(s): Nicole Dubilier, ndubilie@mpi-bremen.de
Location: Grand Ballroom (E-J)

(*) represents Invited presentations
SS4.05: Microbial Genomics: Resolving the Adaptive Strategies of Bacteria from Extreme Environments (Posters)

Chair(s): Craig Cary, caryc@udel.edu
Location: Grand Ballroom (E-J)

201. Simbahan, Jessica, ; Redfield, Elizabeth, ; Schelert, James, ; Blum, Paul, ; MICROBIAL ECOLOGY OF A MERCURY HOT SPRINGS


SS4.06: Diversity, Ecology, and Biogeochemistry of Microbial Mats and Stromatolites (Posters)

Chair(s): Ferran Garcia-Pichel, ferran@asu.edu
Location: Grand Ballroom (E-J)

203. Glazer, B. T.; Luther III, G. W.; Cary, S. C.; DIURNAL CHARACTERIZATION OF CHEMICAL AND MICROBIAL COMPONENTS IN A MID-ATLANTIC SALTMARSH MICROBIAL MAT

204. Wade, B. D.; Garcia-Pichel, F.; EVALUATION OF DNA EXTRACTION METHODS FOR MOLECULAR ANALYSES OF MICROBIAL COMMUNITIES IN MODERN CALCAREOUS MICROBIALITES

205. Rothrock, M. J.; Garcia-Pichel, F.; COMMUNITY STRUCTURE AND DIVERSITY OF CYANOBACTERIAL AND BACTERIAL POPULATIONS IN INTERTIDAL MICROBIAL MATS

206. Marschall, S. M.; Fristain, C. H.; Mosler, A. C.; VIRUSES WITHIN BENTHIC CYANOBACTERIAL MAT, DRY VALLEY LAKES, ANTARCTICA

207. Baumgartner, L. K.; Buckley, D. H.; Reid, R. P.; Visscher, P. T.; THE EFFECTS OF COMMUNITY STRUCTURE ON BIOGEOCHEMICAL PROCESSES WITHIN STROMATOLITES

SS4.07: Microbiology and Biogeochemistry of Cold Seeps (Posters)

Chair(s): Antje Boetius, aboetius@mpi-bremen.de
Location: Grand Ballroom (E-J)

206. Mills, H. J.; Martinez, R. J.; Hodges, C.; Wilson, K.; Macdonald, I.; Sobecky, P. A.; MOLECULAR DIVERSITY AND ACTIVITY OF MICROBIAL COMMUNITIES ASSOCIATED WITH SHALLOW, EXPOSED GAS HYDRATES IN THE GULF OF MEXICO


SS4.08: Life in Ice (Posters)

Chair(s): Jody W. Deming, jdeming@u.washington.edu
Location: Grand Ballroom (E-J)


SS4.11: Biochemistry in Extreme Environments (Posters)

Chair(s): Cordelia Arndt, coarndt@uni-greifswald.de
Location: Grand Ballroom (E-J)

214. CARO, A.; GOT, P.; GROS, Q.; A COMBINATION OF SEVERAL FLUORESCENT DYES TO ASSESS THE VABILITY OF A SULPHIDE-OXYDIZING ENDSYMBIOTIC BACTERIA

215. Shanks, T. M.; FROM CHEMICAL SPECIATION TO GENOMIC FINGERPRINTS: IDENTIFYING THE SPATIAL AND TEMPORAL MECHANISMS STRUCTURING COMMUNITIES ON THE EAST PACIFIC RISE
Friday, February 14, 2003

CS10: Climate Change, Interannual/Interdecadal Variation and Global Change
Chair(s): Christian Fritsen, cfritsen@dri.edu
Catherine O'Reilly, cacreilly@vassar.edu
Location: 250 DE


8:45 am Schindler, D. E.; Rogers, D. E.; Scheuerell, M. D.; Abrey, C. A.; DETECTING CLIMATIC EFFECTS ON ECOLOGICAL DYNAMICS IN SYSTEMS WITH DENSITY-DEPENDENCE: AN EXAMPLE FROM RECENT CLIMATE CHANGE IN ALASKA

9:00 am McMaster, N. L.; Schindler, D. W.: PHYSICAL AND CHEMICAL LIMNOLOGY OF ALPINE PONDS: AN INCREASE IN EXTREMES WITH CLIMATE CHANGE


9:30 am Rusak, J. A.; Kratz, T. K.; Benson, B. J.; Montz, P. M.; Meinke, T. M.; Carpenter, S. R.: PHYSICAL AND BIOLOGICAL RESPONSES TO CLIMATE WARMING IN NORTH-TEMPERATE LAKES

10:15 am Sharp, J. H.: BROAD USE OF COMPARABLE ANALYTICAL METHODS: THE NEED FOR BETTER INTERCALIBRATIONS IN ROUTINE AQUATIC STUDIES

10:30 am Lehman, P. W.: THE INFLUENCE OF CLIMATE ON MECHANISTIC PATHWAYS THAT AFFECT FOOD WEB PRODUCTION IN NORTHERN SAN FRANCISCO BAY ESTUARY

10:45 am O'Reilly, C. M.; Ains, S. R.; Plisnier, P. D.; Cohen, A. S.; Mckee, B. A.; CLIMATIC WARMING DECREASES AQUATIC ECOSYSTEM PRODUCTIVITY OF LAKE TANGANYIKA, EAST AFRICA

11:00 am Sullivan, M. C.; Cowen, R. K.: ATMOSPHERE-OCEAN FORCING OF RECRUITMENT IN A NORTHWEST ATLANTIC FLATFISH

11:15 am Winder, M.; Schindler, D. E.; Hampton, S. E.; CLIMATIC IMPACTS ON INTERANNUAL ZOOPLANKTON VARIABILITY

CS11: Remote Sensing and Technological Tools
Chair(s): Tiffany Moisan, tmoisan@osb.wff.nasa.gov
Location: 150 DEF


8:45 am Katz, J.; Malkiel, E.; Sheng, J.; Strickler, J. R.: DIGITAL HOLOGRAPHIC CINEMATOGRAPHY APPLIED TO DETERMINE ZOOPLANKTON FLOW FIELDS

9:00 am Allison, D. B.; Stramski, D.; Mitchell, B. G.: SATELLITE OBSERVATIONS OF VARIATIONS IN PARTICULATE ORGANIC CARBON IN THE SOUTHERN OCEAN

9:15 am Beach, W. M.; Drapeau, D. T.; Bowler, B. C.; Booth, E. S.; Goes, J. I.; Gordon, H. R.: REMOTE SENSING CALCIUM CARBONATE FROM SPACE USE OF A FIVE YEAR COASTAL TIME SERIES TO UNDERSTAND CLOCOLITHOCOPE ECOLOGY

9:30 am Moisan, T. A.; Ellman, M. E.; Sosinsky, G.: CHARACTERIZING PHAEOCYSTIS ANTARCTICA CHLOROPLASTS USING ELECTRON TOMOGRAPHY

CS23: Molecular Biology
Chair(s): Slava Epstein, s.epstein@neu.edu
Location: 151 ABC

8:30 am Zehr, J. P.; Jenkins, B. D.; Short, S. M.; Steward, G. F.; Ward, B. B.; Jackson, G. A.: BIOCOMPLEXITY, BIOINFORMATICS AND MICROARRAYS OF NITROGENASE GENES

CS31: Groundwater/Surface Water Interactions
Chair(s): Stephen Opsahl, sopsoh@onesctr.org
Matthew A. Charette, mcharette@whoi.edu
Kevin Kroeger, kroeger@bu.edu
Location: 251 AB


8:45 am Barton, W. C.; Bokuniewicz, H.; Huettel, M.; Moore, W. S.; Taniguchi, M.: GROUNDWATER-SURFACEWATER INTERACTIONS IN THE COASTAL ZONE

9:00 am Cable, J. E.; Martin, J. B.; Swearing, P. W.; Steward, J.: GROUND WATER ADVECTION AND SHALLOW PORE WATER MIXING IN SEDIMENTS OF A COASTAL LAGOON, FLORIDA

FRIDAY


10:00 am  Snyder, M. T.; Tailefert, M.; Ruppel, C.: REDOX CHEMICAL ZONATION AT THE SALINITY TRANSITIONS OF A SURFICIAL COASTAL AQUIFER


10:30 am  Chanton, J. P.; Burnett, W. C.; Dulacova, H.; Corbett, D. R.; Taniguchi, M.: SEEPAGE RATE VARIABILITY IN THE LAND-SEA INTERFACE

10:45 am  Krest, J. M.; Harvey, J. W.: USING NATURAL DISTRIBUTIONS OF SHORT-LIVED RADIONUCLIDES TO QUANTIFY GROUNDWATER DISCHARGE AND RECHARGE IN THE EVERGLADES

11:00 am  McCorkle, D. C.; Gramling, C. M.; Mulligan, A. E.; Woods, T. L.: A CARBON ISOTOPE METHOD TO QUANTIFY ARTESIAN GROUNDWATER DISCHARGE AT THE LAND-SEA INTERFACE

11:15 am  Gramling, C. M.; Charette, M. A.; McCorkle, D. C.; Herbold, C.: MULTI-TRACER MEASUREMENTS OF GROUNDWATER DISCHARGE TO COASTAL WATERS

SS3.06: Significance of Small-scale Benthic Processes for Large Ecosystems

Chair(s): Douglass C. Miller, dmiller@udel.edu
Kevin R. Carman, zocarm@lsu.edu

Location: 150 G

8:30 am  Thistle, D.: HARPACTICOID COPEPOD EMERGENCE AT A SHELF SITE IN SUMMER AND WINTER: IMPLICATIONS FOR HYDRODYNAMIC AND MATING HYPOTHESES

8:45 am  Escobar-Briones, E.; Díaz, C.; Salas, J. A.; Hernandez, D. R.: PELAGIC-BENTHIC COUPLING INSIGHTS TO LONG-TERM VARIABILITY IN TROPICAL DEEP-SEA BENTHOS

9:00 am  Nunnally, C. C.; Rowe, G. T.: MACROBENTHIC ECOLOGY OF COLD SEEPS IN THE NORTHERN GULF OF MEXICO

9:15 am  Ward, J. E.; Levinton, J. S.; Shumway, S. E.: PRE-INGESTIVE FEEDING STRATEGIES OF BIVALVES: CONNECTING PALLIAL CAVITY FUNCTION TO ECOSYSTEM PROCESSES


10:15 am  Porter, E. T.; Kim, E. H.; Mason, R. P.; Reardon, M.; Sanford, L. P.; Soulen, H.: THE EFFECT OF HARD CLAMS (MERCENARIA MERCENARIA) AND MUDY SEDIMENT RESUSPENSION ON WATER COLUMN DYNAMICS IN SCALED BENTHIC-PELAGIC COUPLING EXPERIMENTS

10:30 am  Kelaher, B. P.; Levinton, J. S.: IMPORTANCE AND CAUSES OF ASYNCHRONOUS POPULATION DYNAMICS IN SOFT-SEDIMENT COMMUNITIES

10:45 am  Butler, M. J.; Dolan, T. W.: FROM INDIVIDUALS TO ECOSYSTEMS USING SPATIALLY-EXPLICIT INDIVIDUAL-BASED MODELING

11:00 am  Diempien, H. M.; Zimmerman, R. C.: LARGE-SCALE BENTHIC ECOSYSTEM: SEAGRASS PRIMARY PRODUCTION FROM SPACE

SS3.07: Does Microbial Diversity Matter in Ecosystem Function?

Chair(s): Bess Ward, bbw@princeton.edu

Location: 151 G

8:30 am  Suzuki, M. T.; Preston, C. M.; Béja, O.; DeLong, E. F.: TOWARDS ABSOLUTE QUANTIFICATION OF RIBOSOMAL DNA, RIBOSOMAL RNA, AND EXPRESSED GENES IN NATURAL SAMPLES: PROTEORHODOPSIN GENES AND MESSENGER RNA AS A TEST CASE

8:45 am  Koblizek, M.; Falkowski, P. G.; Kolber, Z. S.: MARINE AEROBIC PHOTOSYNTHETIC BACTERIA. NEW METABOLIC STRATEGY IN THE OCEAN

9:00 am  Jayakumar, D. A.; Francis, C. A.; Shailaja, M. S.; Naik, H.; Narvi, S. W.; Ward, B. B.: DIVERSITY OF NITRITE REDUCTASE GENES IN THE ARABIAN SEA WATER COLUMN


9:30 am  Gulmann, L. K.; Mullineaux, L. S.: METABOLIC CONTRIBUTIONS FROM DIGESTIVE SYMBIONTS OF THE FIDDLER CRAB UCA PUGINAX

SS3.10: Emergent Properties and Biocomplexity of Tropical Ecosystems

Chair(s): Ilka C. Feller, feller@serc.si.edu

Location: 251 C

8:30 am  Lovelock, C. E.; Ball, M. C.; Engelbrecht, B. M.; Feller, I. G.: PRODUCTIVITY IN MANGROVE CANOPES ACROSS ENVIRONMENTAL GRADIENTS

9:00 am  Feller, I. G.; Lovelock, C. E.; McKee, K. L.: EFFECTS OF NUTRIENT OVER-ENRICHMENT ON EMERGENT PROPERTIES OF MANGROVE ECOSYSTEMS

9:15 am  Schlarb, U. M.; Ulanciwicz, R. E.: SYSTEM-LEVEL DIFFERENCES AMONG THREE MANGROVE COMMUNITIES ON TWIN CAYS, BELIZE

SS3.15: Coupling Seagrass Dynamics to Water Column and Sediment Geochemistry

Chair(s): Peter Eldridge, eldridge.pete@epamail.epa.gov
James Kaldy, kaldy.jim@epa.gov

Location: 250 AB

8:30 am  Aumack, C. F.; Dunton, K. H.; Mattione, R. A.: LINKING WATER TURBIDITY AND TSS LOADING TO KELP PRODUCTION WITHIN THE STEFANSSON SOUND BOULDER PATCH

(*) represents Tutorial presentations
8:45 am Cornelisen, C. D.; Thomas, F. I.: APPLICATION OF ISOTOPE LABELS FOR ISOLATING THE EFFECTS OF HYDRODYNAMIC REGIME ON NUTRIENT UPTAKE BY MAJOR COMPONENTS OF A SEAGRASS COMMUNITY

9:00 am Cifuentes, L. A.; Kaldy, J.; Jones, W. B.: USING STABLE CARBON ISOTOPE LABELS TO LINK BACTERIA AND SEAGRASSES: FIELD AND LABORATORY EXPERIMENTS

9:15 am Jaffe, R.; Mead, R. N.; Yunping, X.: SEDIMENTARY ORGANIC MATTER SOURCES IN FLORIDA BAY AS REVEALED THROUGH MOLECULAR MARKER ANALYSIS AND COMPOUND SPECIFIC STABLE ISOTOPE MEASUREMENTS.

9:30 am Zimmerman, R. C.; Burdige, D. J.; OCEANIC AND DIAGENETIC CONTROLS OF SEAGRASS DISTRIBUTIONS ON THE BAHAMAS BANKS

10:15 am Burdige, D. J.; Zimmerman, R. C.: SEDIMENT-SEAGRASS INTERACTIONS AND CARBONATE DISSOLUTION: SCALING UP THE LOCAL RATES OF THESE PROCESSES TO EXAMINE REGIONAL CARBON BUDGETS

10:30 am Peyer, S. M.; Young, D.; Lee, R. W.: EFFECTS OF SULFIDE ON PHOTOSYNTHESIS AND RESPIRATION IN ZOSTERA MARINA AND Z. JAPONICA

10:45 am Kaldy, J. E.; Eldridge, P. M.; Burd, A. B.: SEAGRASS STRESS RESPONSE MODEL: THE IMPORTANCE OF LIGHT, TEMPERATURE, SEDIMENTATION AND GEOCHEMISTRY

SS4.06: Diversity, Ecology, and Biogeochemistry of Microbial Mats and Stromatolites

Chair(s): Ferran Garcia-Pichel, ferran@asu.edu
Tori Hoehler, thoehler@mail.arc.nasa.gov
Brad Bebout, bbebbout@mail.arc.nasa.gov

Location: 251 DE

8:30 am Spear, J. R.; Ley, R. E.; Berger, A. B.; Pace, N. R.: THE ARCHAEA OF A HYPERSALINE MICROBIAL MAT

8:45 am Buckley, D. H.; Baumgartner, L. K.; Visscher, P. T.: ARCHAEAAL DIVERSITY AND PHYSIOLOGICAL ECOLOGY OF METHANOCOGENS WITH RESPECT TO DEPTH IN INTERTIDAL MICROBIAL MATS FROM THE SIPPEWISSETT SALT MARSH (FALMOUTH MA)

9:00 am Omoregie, E. O.; Crumbliss, L. L.; Bebout, B. M.; Zehr, J. P.: NIFH DIVERSITY AND EXPRESSION IN LYNGBYÁ SP. AND MICROCOLEUS SP. MICROBIAL MATS FROM GUERRERO NEGRO, MEXICO

9:15 am Dillon, J. G.; Miller, S. R.; Bebout, B.; Crump, A.; Sogin, M.; Stahl, D. A.: DIVERSITY OF SULFATE-REDUCING PROKARYOTES ACROSS A REDOX BOUNDARY IN A HYPERSONAL MICROBIAL MAT

9:30 am Groetshelz, S.: CAPACITIES OF MICROBIAL MATS: UNEXPECTED DEPENDENCE OF PHOTOSYNTHESIS ON OXYGEN CONCENTRATION

9:45 am Pringault, O.; Buffan-Dubau, E.; De Wilt, R.: ARTIFICIAL COLD-ADAPTED MICROBIAL MATS CULTURED FROM ANTARCTIC LAKE SAMPLES: SHORT-TERM TEMPERATURE EFFECTS ON THE OXYGEN TURN-OVER

10:15 am Miller, S. R.: EVIDENCE FOR THE ADAPTIVE EVOLUTION OF THE CARBON FIXATION GENE RBCL DURING DIVERSIFICATION IN TEMPERATURE TOLERANCE OF A CLADE OF HOT SPRING CYANOBACTERIA

10:30 am Pinckney, J. L.; Steppe, T. F.; Paerl, H. W.: PHOTOSACCLIMATION RESPONSES OF MICROBIAL MATS ALONG A DEPTH GRADIENT IN A HYPERSONAL POND, SAN SALVADOR ISLAND, BAHAMAS

10:45 am Gooseff, M. N.; McKnight, D. M.; Runkel, R. L.; Duff, J. H.: DENITRIFICATION IN A GLACIAL MELTWATER STREAM, MCMURDO DRY VALLEYS, ANTARCTICA

11:00 am Elser, J. J.; Schampel, J.; Watts, J.; Garcia-Pichel, F.; Walde, B.; Farmer, J.; Souza, V.; Egularte, L.: EFFECTS OF GRAZERS AND P04 ENRICHMENT ON BIOMASS, C:N:P STOICHIOMETRY, AND MICROBIAL COMMUNITY STRUCTURE OF ONCOD STROMATOLITES AT CUATRO CIENEGAS, COAHUILA, MEXICO


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### Program Matrix - Saturday

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>7:00 PM</td>
<td>ASLO Minorities Program - Keynote Address - Sheraton Hotel</td>
</tr>
<tr>
<td></td>
<td>Dr. Barry Costa-Pierce, Director of Rhode Island Sea Grant</td>
</tr>
<tr>
<td></td>
<td>Ecological Aquaculture and Personal Reflections</td>
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### Program Matrix - Sunday

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00-9:00 PM</td>
<td>Registration - East Registration Area</td>
</tr>
<tr>
<td>1:00-9:00 PM</td>
<td>Speaker Ready Room - Room 250 F</td>
</tr>
<tr>
<td>1:00-2:00 PM</td>
<td>Stable Isotopes Workshop - Room 150 G</td>
</tr>
<tr>
<td>2:30-3:30 PM</td>
<td>ICPMS Workshop - Room 150 G</td>
</tr>
<tr>
<td>2:00-5:30 PM</td>
<td>ASLO Minorities Program - General Session - Room 250 C</td>
</tr>
<tr>
<td>5:30-6:30 PM</td>
<td>Opening Address - Grand Ballroom All &amp; North Foyer</td>
</tr>
<tr>
<td></td>
<td>David J. Des Marais, Research Scientist, Space Science &amp; Astrobiology, Ames Research Center, NASA</td>
</tr>
<tr>
<td></td>
<td>Astrobiology Extends Biology into Deep Time and Space</td>
</tr>
<tr>
<td>6:30-9:00 PM</td>
<td>Opening Welcome Mixer Reception - South Ballroom Foyer</td>
</tr>
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</table>

All sessions and activities are located at the Salt Palace Convention Center, unless otherwise noted.
<table>
<thead>
<tr>
<th>ASLO Minorities Program - Keynote Address - Sheraton Hotel</th>
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<tr>
<td>Dr. Barry Costa-Pierce, Director of Rhode Island Sea Grant</td>
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<tr>
<td>Ecological Aquaculture and Personal Reflections</td>
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| Registration - East Registration Area                        | 1:00-9:00 PM |
| Speaker Ready Room - Room 250 F                              | 1:00-9:00 PM |
| Stable Isotopes Workshop - Room 150 G                        | 1:00-2:00 PM |
| ICPMS Workshop - Room 150 G                                  | 2:30-3:30 PM |
| ASLO Minorities Program - General Session - Room 250 C       | 2:00-5:30 PM |
| Opening Address - Grand Ballroom AB & North Foyer           | 5:30-6:30 PM |
| David J. Des Marais, Research Scientist, Space Science & Astrobiology, Ames Research Center, NASA |        |
| Astrobiology Extends Biology into Deep Time and Space       |        |
| Opening Welcome Mixer Reception - South Ballroom Foyer      | 6:30-9:00 PM |

All sessions and activities are located at the Salt Palace Convention Center, unless otherwise noted.
# Program Matrix - Monday

<table>
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<tr>
<th>Time</th>
<th>Description</th>
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<tbody>
<tr>
<td>7 AM-5 PM</td>
<td>Registration - East Registration Area</td>
</tr>
<tr>
<td>7 AM-5 PM</td>
<td>Small Room - Room 252 A</td>
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<tr>
<td>7:30 AM-7 PM</td>
<td>Speaker Ready Room - Room 250 F</td>
</tr>
<tr>
<td>8:00-8:30 AM</td>
<td>Complimentary Coffee Service - Grand Ballroom Foyer</td>
</tr>
<tr>
<td>8:30-9:30 AM</td>
<td>Conference Welcome &amp; Awards Presentation - Grand Ballroom AB &amp; North Foyer</td>
</tr>
<tr>
<td>9:30-10:15 AM</td>
<td>Plenary Address - Historical Studies in Aquatic Sciences - Grand Ballroom AB &amp; North Foyer</td>
</tr>
<tr>
<td>10:15-10:45</td>
<td>BREAK</td>
</tr>
<tr>
<td>12:00-6:00 PM</td>
<td>Lunch</td>
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<tr>
<td>3:00-5:00 PM</td>
<td>Poster Set-Up - Grand Ballroom E-J</td>
</tr>
<tr>
<td>5:30-6:30 PM</td>
<td>ASLO Business Meeting - Room 151 G</td>
</tr>
<tr>
<td>6:30-8:00 PM</td>
<td>ASLO Student Meeting - Room 151 G</td>
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All sessions and activities are located at the Salt Palace Convention Center, unless otherwise noted.

*The afternoon break is scheduled from 3:15-3:45. However, due to presentation assignments some sessions may go over by 15 minutes.
<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:30 AM-7 PM</td>
<td>The Evolution, Ecology and Biogeochemical Impacts of Plankton from the Paleozoic to the Present</td>
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<tr>
<td>8:00-8:30 AM</td>
<td>Physical Limnology - New Perspectives and Applications to Biogeochemistry and Productivity of Aquatic Ecosystems</td>
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<tr>
<td>8:30-9:30 AM</td>
<td>Symposium Tribute to John J. Gilbert: 40 Years of Contributions to Limnology</td>
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<tr>
<td>9:30-10:15 AM</td>
<td>TERGOM Subsides in Freshwater and Marine Systems</td>
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<tr>
<td>10:15 AM</td>
<td>Poster Set-Up - Grand Ballroom E-J</td>
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<tr>
<td>10:45 AM</td>
<td>The Evolution, Ecology and Biogeochemical Impacts of Plankton from the Paleozoic to the Present</td>
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<tr>
<td>11:00 AM</td>
<td>Wetlands Ecology</td>
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<tr>
<td>11:15 AM</td>
<td>Symposium Tribute to John J. Gilbert: 40 Years of Contributions to Limnology</td>
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<td>TERGOM Subsides in Freshwater and Marine Systems</td>
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<tr>
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<td>Symposium Tribute to John J. Gilbert: 40 Years of Contributions to Limnology</td>
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<td>4:00 PM</td>
<td>TERGOM Subsides in Freshwater and Marine Systems</td>
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<tr>
<td>4:15 PM</td>
<td>Poster Set-Up - Grand Ballroom E-J</td>
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<td>The Evolution, Ecology and Biogeochemical Impacts of Plankton from the Paleozoic to the Present</td>
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## Town Meeting on Emerging Research Issues for Limnology

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### Trophic Dynamics

- **Title:** Advances in Understanding Eutrophic Ecosystems from Real-Time Remote Monitoring Data
- **Contributors:**
  - Deleo, J.
  - Kofuji, K.
  - Karger, J.
  - Houghton, T.
  - Vesper, J.

### Coral Reefs

- **Title:** Harmful Algal Blooms
- **Contributors:**
  - Allen, J.
  - Beck, A.
  - Brierley, J.
  - Brinton, K.
  - Brinton, K.

### Nitrogen Paleobiogeochemistry

- **Title:** Harmful Algal Blooms
- **Contributors:**
  - Allen, J.
  - Beck, A.
  - Brierley, J.
  - Brinton, K.
  - Brinton, K.

## Town Meeting on Emerging Research Issues for Limnology

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>12:00 PM</td>
<td>Session</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>Session</td>
</tr>
</tbody>
</table>

### What is Special About Food Webs in Extreme Environments?

- **Title:** Trophic Focusing and Subsidiary in Aquatic Ecosystems
- **Contributors:**
  - Zippel, B.
  - Kester, D.
  - Jumars, P.
  - Wallmann, K.
  - Pichlová, R.

### Bacteria

- **Title:** Harmful Algal Blooms
- **Contributors:**
  - Zippel, B.
  - Kester, D.
  - Jumars, P.
  - Wallmann, K.
  - Pichlová, R.

## What is Special About Food Webs in Extreme Environments?

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>3:30 PM</td>
<td>Title</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>Title</td>
</tr>
</tbody>
</table>

### Geologic Record of Phosphorus Cycling

- **Title:** Invasive Species & Species Replacement
- **Contributors:**
  - Zippel, B.
  - Kester, D.
  - Jumars, P.
  - Wallmann, K.
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## Trophic Focusing and Subsidiary in Aquatic Ecosystems

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- **Contributors:**
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  - Kester, D.
  - Jumars, P.
  - Wallmann, K.
  - Pichlová, R.

### Continental Shelf Processes

- **Title:** Novel Approaches to Modeling Food Web and Ecosystem Biogeochemistry
- **Contributors:**
  - Dean, J.
  - Vos, P.
  - Hoolihan, P.
  - Ridings, J.

- **Title:** Continental Shelf Processes
- **Contributors:**
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- **Contributors:**
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  - Vos, P.
  - Hoolihan, P.
  - Ridings, J.
## Program Matrix - Wednesday

### 7 AM-5 PM

#### Registration - East Registration Area

#### 7 AM-9 PM

**Email Room - Room 202 AB**

#### 7:30 AM-7 PM

**Speaker Ready Room - Room 250 F**

#### 8 AM-7:30 PM

**Poster Session & Exhibits - Grand Ballroom E-J**

### 8:30-9:15 AM

**Plenary Address: Spatial Patterns in Aquatic Systems - Grand Ballroom All North & South**

Jim Elser, Professor & Director of Undergraduate Programs, Arizona State University

**Constraining Complexity: Biological Stoichiometry Here and Now, Its Prospects For There and Then**

### 9:15-9:30 AM

**BREAK**

### 9:30 AM-5 PM

#### 9:30 AM

**Session CS14**

**Title: Estuarine and Near-Shore Processes**

**The History and Current Status of Eutrophication in Freshwater and Marine Ecosystems**

**Microbial Genomics: Resolving the Adaptive Strategies of Bacteria from Extreme Environments**

**Carbon Cycles in Large Lakes**

**Organic Matter in Aquatic Systems: Sources, Characterization, Distribution, and Quantification**

- **Roman, M. R.**
- **Zhang, X.**
- **Wheelock, K. V.**
- **Snedden, G. A.**
- **Bahr, M.**
- **Natunewicz, C. C.**
- **Engelsen, A.**
- **Arnold, A. M.**
- **Kicklighter, C. E.**
- **150 DEF**
- **150 G**
- **151 ABC**
- **151 DEF**
- **151 G**

#### 10:00 AM

**Session CS24**

**Title: Nutrient Dynamics**

**The History and Current Status of Eutrophication in Freshwater and Marine Ecosystems**

**Biochemistry in Extreme Environments**

**Saline Lakes: Reponses to Anthropogenic Forcing and Appropriate Management Strategies**

- **Vance-Harris, C. A.**
- **Thomas, S. A.**
- **Kubbe Westhead, E.**
- **Ballantyne, A. P.**
- **Buehl, G. M.**
- **Sandow, M.**
- **Goebel, N. L.**
- **Hyfield, E. C.**
- **4:00 PM**

#### 12:15-2:15 PM

**LUNCH**

### 12:15-2:15 PM

#### Session CS24 (cont.)

**Title: Nutrient Dynamics**

**The History and Current Status of Eutrophication in Freshwater and Marine Ecosystems**

**Biochemistry in Extreme Environments**

**Saline Lakes: Reponses to Anthropogenic Forcing and Appropriate Management Strategies**

- **4:30 PM**

### 2:15 PM

**Session CS24**

**94. Moore, J. G.**

**95. Bruton, S.**

**96. Barry, J. P.**

**97. Burgmer, T.**

**Posters**

### 7:10-9:30 PM

#### Poster Session, Exhibits & Reception - Grand Ballroom E-J

### 7-10:30 PM

#### Wednesday Evening Reception - Snowbird Ski Resort (Optional)

*The afternoon break is scheduled from 3:30-4:00. However, due to presentation assignments some sessions may go over by 15 minutes.*

All sessions and activities are located at the Salt Palace Convention Center, unless otherwise noted.
# Program Matrix - Thursday

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 AM-3 PM</td>
<td>Registration - East Registration Area</td>
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<tr>
<td>7 AM-5 PM</td>
<td>Email Room - Room 252 AB</td>
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<tr>
<td>7:30 AM-7 PM</td>
<td>Speaker Ready Rooms - Room 250 F</td>
<td></td>
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<tr>
<td>8 AM-7:30 PM</td>
<td>Poster Session &amp; Exhibits - Grand Ballroom E-J</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30-9:30 AM</td>
<td>Plenary Address - Extreme Environments On Earth and Beyond - Grand Ballroom AB &amp; North Foyer</td>
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</tr>
<tr>
<td>9:15-9:30 AM</td>
<td>BREAK</td>
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<tr>
<td>9:15-9:30 AM</td>
<td>150 DEF</td>
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<td>151 ABC</td>
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<tr>
<td>Session</td>
<td>Impacts of Changing Land Use on Aquatic Ecosystems</td>
<td></td>
<td>Phyttoplankton &amp; Primary Production</td>
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<tr>
<td>9:30 AM</td>
<td>Scott, G. I.</td>
<td>Carman, K. R.</td>
<td>Sommar, G.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>Demopoulos, A. W.</td>
<td>Lohrenz, S. E.</td>
<td>Gir, B. J.</td>
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<tr>
<td>10:15 AM</td>
<td>Sleley, S.</td>
<td>Lui, A. R.</td>
<td>Dousouva, H.</td>
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<tr>
<td>10:30 AM</td>
<td>Bratvold, D.</td>
<td>Linarais, F.</td>
<td>Grant, T.</td>
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<tr>
<td>10:45-11 AM</td>
<td>BREAK</td>
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<tr>
<td>11:00 AM</td>
<td>Weston, N. B.</td>
<td>Sundback, K.</td>
<td>Gorbunov, M. Y.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>Lopez-de-Victoria, G.</td>
<td>Laran, F. M.</td>
<td>Peterson, J. D.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Liu, R.</td>
<td>Hatch, L. K.</td>
<td>Hull, C. M.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>Kappel, G. S.</td>
<td>Baker, M. A.</td>
<td>Schapira, M. N.</td>
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<tr>
<td>12:00 PM</td>
<td>Lislund, N. V.</td>
<td>Rick, S.</td>
<td>Rick, J. J.</td>
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<tr>
<td>12:15-2:15 PM</td>
<td>LUNCH</td>
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<tr>
<td>2:30 PM</td>
<td>Wilson, F. K.</td>
<td>Thomas, F. I.</td>
<td>Prah, O.</td>
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<tr>
<td>3:00 PM</td>
<td>Kromer, J. N.</td>
<td>Ackerman, J. D.</td>
<td>Perry, M. J.</td>
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<tr>
<td>3:15 PM</td>
<td>Beighley, R. E.</td>
<td>Hamblen, J. M.</td>
<td>Olson, R. J.</td>
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<tr>
<td>3:30 PM*</td>
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<tr>
<td>3:45 PM</td>
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<td>Impacts of Changing Land Use on Aquatic Ecosystems</td>
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<td>Phyttoplankton &amp; Primary Production</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>Burkholder, J. M.</td>
<td>Hunt, H. L.</td>
<td>Snoke, H. M.</td>
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<tr>
<td>4:15 PM</td>
<td>Graneshaw, M. C.</td>
<td>Fries, J. S.</td>
<td>MacIntyre, H. L.</td>
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<td>4:30 PM</td>
<td>Andrade, F.</td>
<td>Busising, N.</td>
<td>Middiburg, J. H.</td>
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<td>4:45 PM</td>
<td>D'Andrea, A. F.</td>
<td>Plaxton, B. J.</td>
<td>Heaw, J.</td>
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<tr>
<td>5:00 PM</td>
<td>Ambrecht, E. V.</td>
<td>Wommack, K. E.</td>
<td>Kofoe, K. E.</td>
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<tr>
<td>5:30-7:30 PM</td>
<td>Poster Session, Exhibits &amp; Reception - Grand Ballroom E-J</td>
<td></td>
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<tr>
<td>7:00-8:30 PM</td>
<td>National Oceanographic Partnership Program (NOPP) Information Session - Room 150 G</td>
<td></td>
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<tr>
<td>8:30-9:30 PM</td>
<td>Poster &amp; Exhibit Tear-DOWN - Grand Ballroom E-J</td>
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<td></td>
</tr>
</tbody>
</table>

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<tr>
<td>SS3.20</td>
<td>Geomicrobiology of Hydrothermal Vents</td>
<td>Grand Ballroom AB &amp; North Foyer</td>
</tr>
<tr>
<td>SS3.20</td>
<td>Coastal Indicators of Water Quality and Ecological Condition</td>
<td>Grand Ballroom AB &amp; North Foyer</td>
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<tr>
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<td>Diversity, Ecology, and Biogeochemistry of Microbial Mats and Stromatolites</td>
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# Program Matrix - Friday

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<tr>
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<th>Registration - East Registration Area</th>
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<tbody>
<tr>
<td>7:00-11:30 AM</td>
<td>Email Room - Room 253 AB</td>
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<tr>
<td>Session</td>
<td>CS31</td>
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<tr>
<td>Title</td>
<td>Remote Sensing and Technological Tools</td>
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<tr>
<td>8:30 AM</td>
<td>Farmer, A.</td>
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<tr>
<td>8:45 AM</td>
<td>Katz, J.</td>
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<tr>
<td>9:00 AM</td>
<td>Allison, D.</td>
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<tr>
<td>9:15 AM</td>
<td>Balch, W. M.</td>
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<tr>
<td>9:30 AM</td>
<td>Heisler, T. A.</td>
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<td>9:45 AM*</td>
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<tr>
<td>Session</td>
<td>SS3.05</td>
</tr>
<tr>
<td>Title</td>
<td>Significance of Small-scale Benthic Processes for Large Ecosystems</td>
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<tr>
<td>10:00 AM*</td>
<td>Porter, E. T.</td>
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<tr>
<td>10:15 AM</td>
<td>Kelaher, B. P.</td>
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<tr>
<td>10:30 AM</td>
<td>Butler, M. J.</td>
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<tr>
<td>11:00 AM</td>
<td>Dierssen, H. M.</td>
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</tbody>
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*The break is scheduled from 9:45-10:15. However, due to presentation assignments some sessions may go over by 15 minutes.*
## Program

### Registration - East Registration Area

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<th>Time</th>
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<tr>
<td>7 AM - 12 PM</td>
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<tr>
<td>7:00 - 11:30 AM</td>
<td>Email Room - Room 252 AB</td>
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### Session Details

<table>
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<th>Room</th>
<th>Title</th>
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<tbody>
<tr>
<td>250 AB</td>
<td>Coupling Seagrass Dynamics to Water Column and Sediment Geochemistry</td>
</tr>
<tr>
<td>250 C</td>
<td>Climate Change, Interannual/Interdecadal Variation and Global Change</td>
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<tr>
<td>250 DE</td>
<td>Groundwater/Surface Water Interactions</td>
</tr>
<tr>
<td>251 AB</td>
<td>Emergent Properties and Biocomplexity of Tropical Ecosystems</td>
</tr>
<tr>
<td>251 C</td>
<td>Diversity, Ecology, and Biogeochemistry of Microbial Mats and Stromatolites</td>
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</table>

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>Aumack, C. F.</td>
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<td>Fritzen, C. H.</td>
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<td>Burnett, W. C.</td>
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<td>Lovelock, C. E.</td>
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<td>8:45 AM</td>
<td>Cornelisen, C. D.</td>
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<td>Schindler, D. E.</td>
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<td>Burnett, W. C.</td>
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<td>Lovelock, C. E.</td>
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<tr>
<td>9:00 AM</td>
<td>Jaffe, R.</td>
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<td>Harvey, M.</td>
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<td>Hollokoetz, E. R.</td>
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<td>9:15 AM</td>
<td>Zimmerman, R. C.</td>
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<td>Kreuser, K. D.</td>
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<td>Lovelock, C. E.</td>
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<tr>
<td>10:00 AM*</td>
<td>Taillefert, M.</td>
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<td>10:15 AM*</td>
<td>Burdige, D. J.</td>
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<td>Charette, M. A.</td>
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<td>Chanton, J. P.</td>
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<td>10:45 AM</td>
<td>Kaldy, J. E.</td>
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<td>O'Leary, C. M.</td>
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<td>Kost, J. M.</td>
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<tr>
<td>11:00 AM</td>
<td>Sullivan, M. C.</td>
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<tr>
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<td>McCormick, D. C.</td>
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<tr>
<td>11:15 AM</td>
<td>Winder, M.</td>
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<td>Gramling, C. M.</td>
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*The break is scheduled from 9:45-10:15. However, due to presentation assignments some sessions may go over by 15 minutes.*
ASLO 2003 Registration Form

If you are unable to register electronically on the web at http://www.aslo.org/slc2003, please mail completed registration form and payment to: ASLO, 5400 Bosque Boulevard, Suite 680, Waco, Texas 76710-4446, USA. Registrations complete with purchase order or credit card information that are not accompanying an abstract submission can be faxed to: (254) 776-3767.

Please make checks payable in U.S. dollars and drawn on a U.S. bank to: ASLO

Please print or type.

LAST NAME FIRST NAME MIDDLE INITIAL

NAME FOR BADGE

INSTITUTE OR ORGANIZATION

DEPARTMENT OR FIRST ADDRESS LINE

LAST ADDRESS LINE

CITY STATE/PROVINCE ZIP COUNTRY

E-MAIL PHONE FAX

Fees (in U.S. dollars and per person):

☐ ASLO Member (received on or before January 9, 2003) ................................................................. $300.00 USD

☐ Non-ASLO Member (received on or before January 9, 2003) ............................................................ $350.00 USD

☐ ASLO Student Member (received on or before January 9, 2003) ....................................................... $200.00 USD

☐ Non-ASLO Student Member (received on or before January 9, 2003) .............................................. $250.00 USD

☐ Spouse/Guest (received on or before January 9, 2003. Spouses/guests are not admitted to the sessions.) ........................................ $100.00 USD

Spouse/Guest Name:

☐ One-Day Registrations (received on or before January 9, 2003) ....................................................... $150.00 USD

☐ Late Fee (Must be added to all registrations that are mailed after January 9, 2003) ................................ $60.00 USD

☐ I am a member of ASLO.

☐ I am not a member of ASLO, and I would like to receive more information.

Payment:

☐ Amount Enclosed

☐ Bill My Organization. (You must submit a purchase order.)

☒ Credit Card Payment

☐ Visa ☐ MasterCard ☐ American Express

NAME ON CARD

CARD NUMBER EXP DATE

SIGNATURE

Confirmation:

A confirmation will be sent to the e-mail address on this form unless you specify otherwise.

I prefer that my registration confirmation be sent via:

☐ Fax ☐ Mail ☐ E-mail

Special Needs:

☐ If you have a disability or physical limitation that may require special consideration so that you might fully participate in this meeting, please check here. You will be contacted by someone from the planning organization to see how we can accommodate your special needs.
ASLO 2003 Wednesday Evening Reception and Field Trip Sign-up Form

If you have already registered for the meeting and would like to purchase a ticket to the Snowbird reception and/or sign up for any of the field trips, please complete this form and fax it back to the ASLO Business Office at (254) 776-3767 with payment information. You also can mail the form with a check to ASLO 2003, 5400 Bosque Boulevard, Suite 680, Waco, Texas 76710-4446.

Please make checks payable in U.S. dollars and drawn on a U.S. bank to: ASLO.

Reservations cannot be accepted via email or phone, nor can they be accepted without payment in advance.

All of the activities listed are dependent upon a minimum number of reservations and some have space limitations that apply.

Please print or type.

Last Name First Name Middle Initial

Name for Badge

Institute or Organization

Department or first address line

Last address line

City State/Province Zip Country

E-mail Phone Fax

Fees (in U.S. dollars):

☐ Snowbird Ski Resort Reception (Wednesday Evening, February 12, 2003)

Number of tickets @ $45.00 USD per person = ............................................................ $ ____________ USD

☐ Antelope Island, Great Salt Lake and Prehistoric Lake Bonneville Field Trip (Sunday, February 9, 2003)

Number of tickets @ $33.00 USD per person = ............................................................ $ ____________ USD

☐ Bear Lake Ecology and PaleoLimnology Field Trip (Sunday, February 9, 2003)

Number of tickets @ $36.00 USD per person = ............................................................ $ ____________ USD

☐ Soldier’s Hollow Skiing Trip (Friday Night, February 14, 2003 and Saturday, February 15, 2003)

Number of tickets @ $135.00 USD per person = ............................................................ $ ____________ USD

Total in U.S. Dollars $ ____________ USD

Payment Information:

☐ Check Enclosed (Please provide checks drawn on a US bank in US dollars payable to: ASLO.)

☐ Credit Card Payment:

☐ VISA ☐ MasterCard ☐ American Express

Send remittance to: ASLO

American Society of Limnology and Oceanography
5400 Bosque Blvd., Suite 680
Waco, Texas 76710-4446
Voice: 800-929-ASLO or 254-399-9635
Fax: 254-776-3767
E-mail: business@aslo.org
**ASLO 2003 Housing Reservation Form** (Do not send with meeting registration. Send to address below.)

**Guest Information**

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**# of Standard, One-Bedded Rooms (1-2 people) # of Standard, Two-Bedded Rooms* (2-4 people)**

*Two-Bedded Rooms are limited in most hotels. We suggest selecting 2-bedded rooms only when they are required. This improves your chances of obtaining reservations in one of your hotel choices.

Please select three hotel choices from the Official Conference Hotels (see Pages 18-19).

1. 
2. 
3.

Please attach separate rooming list with names of all occupants.

- [ ] Check here if you have a disability requiring special services
- [ ] Non smoking request
- [ ] Special requests: _______________________

**Deposit Information**

All reservations requests must be accompanied by a credit card guarantee or check for one night's deposit of one night's room rental plus tax for each room reserved. Housing forms received without a valid guarantee/deposit will not be processed. Faxed requests must include a valid credit card. If the charge to the credit card is denied, we reserve the right to release your reservation. Check deposits must be mailed with a completed housing form.

- [ ] One night's check deposit enclosed and made payable to SLCVB/ASLO Housing Bureau. Mail housing forms to: SLCVB/ASLO Housing Bureau, 90 South West Temple, Salt Lake City, UT 84101.
- [ ] I hereby authorize SLCVB/ASLO Housing Bureau or any one of the hotels listed on this form, to process a charge to my credit card for each room deposit in accordance with the policies and information provided herein.

- [ ] Visa
- [ ] Discover
- [ ] Diner's Club
- [ ] MasterCard
- [ ] American Express

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<th>CARD NUMBER</th>
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**Reservations Instructions**

Reservations can be made in the following ways:

- **Internet:** www.aslo.org/slcvb2003
- **Telephone:** Toll free (US): 800-217-0002
  International: 801-521-9025
- **Fax:** 801-355-0250
- **Mail:** SLCVB/ASLO Housing Bureau
  90 South West Temple
  Salt Lake City, UT 84101

**Deadline**

Reservations must be made by phone, fax, mail or Internet by Jan. 13, 2003, in order to guarantee convention rates.

**Cancellation Policy**

One night's room and tax will be forfeited entirely if cancellation occurs within 24 hours of arrival.

**Confirmations**

The SLCVB/ASLO Housing Bureau will send you a confirmation of your reservation. Please review all information for accuracy. E-mail confirmations will be sent if an e-mail address is provided (preferred), or they can be faxed or mailed. If you do not receive a confirmation or have questions, please call the SLCVB/ASLO Housing Bureau. **You will not receive a confirmation from the hotel.**

**Tax Rates**

All rates are per room and are subject to 11.2% tax (subject to change).

**Requests**

Special requests cannot be guaranteed, however hotels will do their best to honor all requests. Hotels will assign specific rooms upon check-in, based on availability.
ASLO Membership Application 2003

Thank you for your interest in ASLO. To become a member of this society, complete the information below and send with your dues payment to:

ASLO, 5400 Bosque Blvd., Suite 680, Waco, Texas 76710-4446, USA.

Please print or type.

LAST NAME    FIRST NAME    MIDDLE INITIAL

INSTITUTE/ORGANIZATION

ADDRESS LINE 1

ADDRESS LINE 2

CITY    STATE/PROVINCE    POST CODE    COUNTRY

EMAIL    PHONE    FAX

HIGHEST DEGREE    YEAR DEGREE ATTAINED

GENDER (M OR F)    BIRTH YEAR

FIELD (LIM = LIMNOLOGY; OCE = OCEANOGRAPHY; IF LISTING BOTH, ENTER PRIMARY FIRST.)

Discipline:

IF LISTING MORE THAN ONE, LIST IN ORDER OF PRIORITY.

B = Biological
C = Chemical
G = Geological
P = Physical

Environmental Specialty:

ENTERING MORE THAN FOUR IN ORDER OF PRIORITY.

E1 = Lakes/Reservoirs/Ponds
E2 = Rivers/Streams
E3 = Great Lakes
E4 = Wetlands
E5 = Estuaries
E6 = Coastal Ocean
E7 = Open Ocean
E8 = Most / All

DISCIPLINARY SPECIALTY (PROVIDE NO MORE THAN A 30 CHARACTER DESCRIPTION.)

Membership Categories:

☐ Regular Member with Subscription to the Journal, Limnology and Oceanography
☐ Printed Version - North America ................................................................. $90.00
☐ Printed Version - Outside North America .................................................... $110.00
☐ Electronic Version Only ................................................................................ $75.00
☐ Regular Member without Journal Subscription .......................................... $50.00
☐ Student Member with Subscription to the Journal, Limnology and Oceanography (5-year limit for graduate students)
☐ Printed Version ....................................................................................... $75.00
☐ Electronic Version Only .......................................................................... $35.00
☐ Student Member without Journal Subscription .......................................... $25.00
☐ Emeritus Member (for Emeritus Members wishing to receive the Journal) ................................................................. $70.00
☐ Emeritus Member ...................................................................................... No Charge
☐ Limnology & Oceanography: Methods (Six-month subscription, January 1 to June 30, 2003 only) ........................................ Free!

NOTE: Subscription to printed version includes access to electronic version.

Payment Information:

☐ Check Enclosed
(Please provide checks drawn on a US or Canadian bank in US dollars payable to: ASLO.)

☐ Credit Card Payment:

☐ VISA  ☐ MasterCard  ☐ American Express

Send remittance to: ASLO
American Society of Limnology and Oceanography
5400 Bosque Blvd., Suite 680
Waco, Texas 76710-4446
Voice: 800-929-ASLO or 254-399-9635
Fax: 254-776-3767
E-mail: business@aslo.org
Salt Lake City Downtown and Housing Map

1-Wyndham Hotel
2-Best Western Salt Lake Plaza Hotel
3-Salt Lake City Marriott Downtown-HQ
4-Shilo Hotel – Salt Lake City
5-Hilton Salt Lake City Center
6-Quality Inn City Center

Indicates Free Ride Zone. It’s free to ride the bus and TRAX in the area shown.
 Indicates TRAX light-rail route.