

Phycological Newsletter

Volume 48, Number 1 - Winter/Spring 2012

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Letter from PSA President Juan Lopez-Bautista

Dear PSA members: Welcome to PSA 2012!

First, I wish to acknowledge the Board of Trustees as well as all the members of PSA committees (Executive, Program, Election, Membership, Communications, Publication, Education, Grants and Fellowships, Archives, Student Awards, Gerald W. Prescott Award, Luigi Provasoli Award, PSA Award of Excellence, Conservation and Public Policy, Applied Phycology, Algal Nutrition, and Darbaker Prize) for their continued and generous effort. There are more members engaged and working for the society in several committees as never before. I am particularly indebted to our Past President Susan Brawley for her



and I would like to acknowledge each and every PSA member for your support and membership!

As we all are aware, one serious problem for our society is membership, which has been in decline since several years ago. I will work to further expand our membership. The trend is now being rectified, and the numbers are increasing. For this matter, I would like to promote what I call **“bring a buddy along”** to increase our membership. I am asking you to

leadership during 2011.

The PSA continues to become a stronger and more solid scientific society as we start 2012,

invite all members from your own laboratories, graduate and undergraduate students, post-docs, visiting scientists and other colleagues as well, to become members of PSA. A growing inclusion of students, faculty, post-docs, career scientists and even hobby enthusiasts would be one main goal for 2012. Increasing not only the number but also the diversity (countries, scientists, students, teachers, other scientific and business societies, etc.) in our membership will be an important part of insuring a healthy future of our society. I believe that one main area in which we can grow in number is among the students and scientists outside the USA. After all, our journal name stands for “An International Journal of Algal Research.” For example, the large number of Latin American and Asian phycologists is not well represented in our membership.

(continued)

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During recent meetings at the APPF in Korea and the EPC in Greece, I had the opportunity to talk with the young crowd attending these venues. It was particularly interesting to find out how much more work we need to do to introduce to the young crowd the wonderful opportunities of having a PSA membership. Most of these young phycologists were unaware of the many advantages membership in our society, at relatively modest dues, entitles them to. This is especially significant for our young budding phycologists, undergraduate and graduate students. The cost for student membership (\$40; online J. Phycol) is really a great price and valid for up to three (3) years! Just considering the special rates for student registration at the annual meeting for being a PSA member, it is a great bargain! So please join me and ask your fellow PSA members to join us and **"bring a buddy along"** to our PSA membership!

Our dynamic Program Director, Dale Casamatta, has organized a fantastic annual meeting at the always charming city of Charleston, SC, this June. The program is packed with exciting scientific contributions, several international symposia, state-of-the-art workshops, algal collecting trips, and many other stimulating activities (including the PSA banquet at the SC Aquarium!). Soon you will hear about the registration information and the program updates (check often at www.psaalgae.org).



The elections committee, chaired by Wayne Litaker, has recently requested your suggestions of members to serve as nominees for several important PSA offices: Vice President/President-Elect, Treasurer, and Editorial Board Members. Please take the time to respond to these important ballots as well as our voting activities.

As you are aware we have a new editorial format, with four new Co-Editors: Michael Graham, Debashish Bhattacharya, Arthur Grossman, and Jonathan Zehr. The newly appointed editorial team has great ideas and exciting initiatives to increase the quality of the Journal of Phycology to be implemented this 2012! (check often our website for new developments of our Journal at www.psaalgae.org).

The Executive Committee will convene a mid-year meeting in Boston during March 16-17 at the Wiley-Blackwell headquarters. If you have specific ideas for PSA to serve better our membership and activities, please send me an email (jlopez@ua.edu). We will work our best to include your suggestions/advice in our society.

More than ever before, your help to PSA is indispensable for the future of our society. February is a great month to show your appreciation to PSA. I encourage you to give your generous support in the form of a donation to our society. There are many ways you can donate to PSA (electronically with paypal, check, etc.), and there are also several areas in which you can show your support (PSA General, Publication, Bold, Hoshaw, Education and Research funds, just to mention some examples). Check our website (www.psaalgae.org) and select **Donate to PSA**. I sincerely thank you in advance for your generous support!

Our previous PSA presidents, Committee Chairs, Board of Trustees, and many others have left great indelible benchmarks, and I am indebted to continue with their legacy.

Cheers, enjoy 2012, and I look forward to seeing you in Charleston, SC, in June!

PSA 2012

Have you longed to visit one of the nation's most historic, beautiful cities in a Phycological context? If so, it is with great pleasure that we announce the opening of registration for the 2012 Phycological Society of America to be held **June 20-23** at the Frances Marion hotel in lovely Charleston, South Carolina. Registration will commence on March 1, with abstract submission open until May 1st.

Contributed papers and posters in all areas of prokaryotic and eukaryotic phycology are welcome, including such topics as: reproduction and life history strategies; light harvesting; interactions between species and trophic levels; aquaculture; development of biofuels and other algal products; parasitism; education including service learning projects; morphological taxonomy linked to genetic phylogenies; HABs; invasive species; cell physiology and biochemistry with respect to environmental gradients; taxonomy; health and nutrition; population structure and genetic diversity; and new insights into cellular and developmental biology.



The meeting will feature four major symposia: 1) Red algal phylogenomics, 2) Algal-viral interactions, 3) Algae in coastal ecosystems, and 4) Algae as indicators in freshwater ecosystems. We will also have two exciting workshops: 1) Introductory Genomics Tools; and 2) Advanced Genomics Tool. In addition, we have planned an NSF Town Hall meeting (see below), several education and scientific endeavors (details to follow on the PSA website) and of course and all the general festivities one would expect from such an august society (e.g., Bold talks, auction, etc.).

As always, we are planning freshwater and marine field trips to showcase some of the natural wonders of coastal South Carolina, and shall be hosting the PSA Banquet in the beautiful South Carolina Aquarium.

We hope to see all of you at the meeting, and please feel free to contact the program director (Dale Casamatta, dcasamat@unf.edu) or one of the great local organizers (Jack DiTullio [DitullioJ@cofc.edu] and Frances van Dolah [fran.vandolah@noaa.gov] with any additional comments or questions!

**NSF TOWN HALL at
PSA in Charleston**

Wondering what goes into writing an effective proposal to the National Science Foundation? Wondering where to find NSF programs that fund research in your area? Interested in how proposals are reviewed at NSF? Thinking of possibly working at NSF sometime in the future?

Join NSF Program Director Rick McCourt (Division of Graduate Education) for a discussion of NSF programs in research and education. McCourt will give a short talk followed by a Q & A session on NSF investments in algal research and support for education. The NSF Town Hall will take place on Wednesday evening (time to be announced). Hope to see you there!

THE “2,012” PSA MEMBERSHIP DRIVE “Bring a Buddy Along”

This year, 2012, is an excellent time for the PSA to increase its membership. As Past President Susan Brawley pointed out in the previous issue of the newsletter, the PSA is an international society, comprised of members that are making significant scientific discoveries and contributing to scientifically based solutions for some of our most challenging global problems. To continue to be successful and impactful, the Society needs to continue to increase its membership in terms of both numbers and diversity. Based on our current membership, which is hovering around 1,000 members, we can reach 2,012 or beyond, by having each member recruit at least one new student, post-doc, or professional colleague. PSA President Juan Bautista-Lopez has proposed that this be the year to “BRING A BUDDY ALONG” emphasizing both the collaborative nature of science and that we can increase our membership by inviting people from our own laboratories (new graduate students and recently hired post-docs) as well as colleagues and their students (both within and bound our country boundaries) to join the PSA. The benefits of joining PSA are especially rewarding for students. One low fee, valid for up to three years, allows students to apply for Grants-In-Aid to support student research, Croasdale Fellowships to attend phycology courses, Hoshaw Travel Awards to attend the PSA meeting, and to participate the prestigious Bold and Lewin Awards sessions. Last year, the PSA provided over \$25,000 in support of our student members.

Here, I summarize our membership data to provide you with a sense of the PSA membership today (or at least at the end of 2011) and hope that as a Society, we can consider ways in which the PSA membership can continue to grow.

At the end of 2011, we had members in 48 countries around the globe (Table 1). The largest proportion of the membership was from the United States (approximately 58% of the membership) followed by Japan (ca. 7%), Canada (ca. 6%), Australia and South Korea (ca. 3% each). The number of countries that had less than five members was surprisingly large (a total of 24). While the membership numbers vary among countries, there seems to be room to grow throughout the world. (continued)

Table 1: Global distribution of PSA members. Membership information was provided by Wiley-Blackwell and represents PSA members who had paid annual dues by November 2011.

Country	Total
ARGENTINA	5
AUSTRALIA	27
AUSTRIA	5
BELGIUM	4
BRAZIL	9
CANADA	55
CHILE	2
CHINA	10
CROATIA	1
CZECH REPUBLIC	5
DENMARK	6
ENGLAND	24
FINLAND	2
FRANCE	16
GERMANY	18
GREECE	4
HONG KONG	1
ICELAND	2
INDIA	6
IRELAND	3
ISRAEL	2
ITALY	8
JAPAN	75
MALAYSIA	5
MALTA	1
MEXICO	8
NEW ZEALAND	10
NORTHERN IRELAND	1
NORWAY	6
PANAMA	1
PERU	1
PHILIPPINES	1
POLAND	1
PORTUGAL	8
ROMANIA	1
RUSSIAN FEDERATION	4
SCOTLAND	4
SLOVAKIA	1
SLOVENIA	2
SOUTH AFRICA	1
SOUTH KOREA	27
SPAIN	16
SWEDEN	3
SWITZERLAND	3
TAIWAN	6
THAILAND	4
THE NETHERLANDS	8
USA	574
Grand Total	987

From the end of 2010 through the third quarter of 2011, we saw about a 9% increase in our overall membership. There was a 24% increase in the number of student members, which is very exciting and important in keeping our Society young and vibrant. A recognized strength of the PSA is the support that the Society provides for its student members including Grants in Aid of Research, support for advanced training, travel to the annual meeting, and awards for research excellence. The Program Committee, chaired by Dale Casamatta, Education Committee, chaired by Jessica Muhlin, and the Student Representative, Craig Aumack, did an excellent job arranging professional development and social activities at the past annual meeting in Seattle – traditions that will continue and be built upon in future meetings.

We saw a sizable increase in the number of Post-doctoral members between 2010 and 2011. This is a relatively new membership category for the PSA, which increased by 58% this year. Many of these members were active and engaged student members, and we look forward to their continued contributions to the PSA. Of note, there was essentially no change in the total number of “Regular” members and a slight increase in the number of retired members. The number of retiring members may have offset any gain in the number of new “regular” members.

That leaves the open-ended question – **who is missing from the PSA?** Are there people working in your laboratory, your department, or with whom you are collaborating with that are working with algae, but don't view themselves as phycologists? Do you know of past members that have not renewed their membership for one, two or more years? **Encourage them to join the PSA by sharing the benefits of membership.** The annual meeting provides a great opportunity to meet and network with experts from diverse fields and hear results from ranging from basic to applied research programs. You might inform (or remind) them of the excellent opportunities for student support. And this year, we'll be seeing changes in the Journal of Phycology that further highlight the diversity of work being done with the algae. If you would like to **sponsor a student or purchase a gift membership** you may do so by contacting our Membership Service Representatives at Wiley Blackwell (membershipservices-mal@wiley.com).

Do you have ideas or suggestions for reaching a broader audience? Will you be attending a meeting where the benefits of membership in the PSA could be advertised? This past year, Phil Bucolo and Craig Aumack reached out to students who were working with algae at the Benthic Ecology Meeting (March). Members of the Applied Phycology Committee (Milt Sommerfield and Jerry Brand) obtained gratis space to advertise the PSA at the Algal Biomass Organization Summit, which met in October in Minneapolis. Bob Andersen, Michael Gretz and Jerry Brand represented the Society. The PSA also provided support for student awards (\$500 total) at the First International *Volvox* Conference held this past December at the Biosphere 2 in Arizona. Thanks to all the members who represented the PSA at these diverse venues. For those of you interested in representing the PSA or seeking support from the PSA for algal related events, please send a succinct proposal outlining your ideas to the PSA President Juan Lopez-Bautista (jlopez@ua.edu) or feel free to contact me directly with your ideas (debrobertson@clarku.edu).

Finally, please let me know if you feel there are any barriers to joining the PSA. As an international society, I know that some members face more challenges than others when it comes to making international payments. If you encounter any problems please let our Membership Services Representatives know (membershipservices-mal@wiley.com). As it does annually, the Executive Committee will be reviewing the fees and payment processes associated with membership in March. Comments, suggestions, and recommendations are welcome and can be sent to me (debrobertson@clarku.edu) or any member of the PSA Executive Committee.

With regards and best wishes for 2012,

Deb Robertson

Chair, PSA Membership Committee

PSA Developments

The **PSA Education Committee** is looking forward to an educationally-engaging phycological year! We welcome new committee members Mark Farmer, Wilson Freshwater and Kenneth Karol and thank Karen Pelletreau, Chris Lane, and Mike Boller for their service to the PSA. On the heels of our successful Genomics Workshop in Seattle, we will be offering an encore Beginner Genomics Workshop as well as a new Intermediate/Advanced Workshop. These workshops are scheduled to be held Tuesday, June 19th in Charleston, SC. More information regarding the Genomics Workshop will be forthcoming. In addition, the Education Committee will also hold a continuation of the highly regarded Career Workshop for Students and Young Professionals on Wednesday, June 20th at the annual PSA meeting. We encourage all conference attendees to participate.

Jessica Muhlin, Education Committee Chair

Thanks to many generous donors, as of the 2011 Fund Drive supporting student lines in the PSA Endowment was quite successful. Close to \$30,000 was raised during the period of the drive, including an anonymous donation of \$20,000. The majority of these funds were donated directly to specific Endowment lines and will thus fund students in perpetuity. Thank you to all who donated in the past year!

The PSA Board of Trustees will continue to work with the membership of PSA to identify and support specific activities via the Endowment. Particularly in the current economic climate, we recognize that algal science will benefit from any support PSA can provide, and we will work to raise funds to continue this support.

-The PSA Board of Trustees

**Thank
you!**

**Donors to the
Endowment
during the
recent capital
campaign
ending
December 31,
2011 ***

Chuck and Maggie Amsler,
Susan Brawley, Claudia M. Collado-Vides,
Clinton Dawes, Maria Faust, Gary Floyd, Paul Gabrielson,
Raymond Gantt, Elisabeth Gantt, Linda Graham, Michael Guiry,
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Muller-Parker, Tim Nelson, Cathy Pfister, Relf Price, Peter Pryfogle,
Ruth Schmitter, Alison Sherwood. Shoichiro Suda, Hisashi
Taguchi. Satoru Taguchi, John van der Meer, Morgan Vis-
Chiasson, Bob and Sue Waaland, John Wehr

* Exclusive of the many generous donors who bought items from the PSA Headquarters and at the PSA auction. If you donated in 2010 or 2011 and are not listed, please contact Tim Nelson (tnelson@spu.edu).

Courses

DURHAM FRESHWATER ALGAL IDENTIFICATION COURSES

Venue: Hild-Bede College and School of Education, Durham University, UK

Organizers: Professors Brian A Whitton (Durham) and David M John (London)

Introduction to Freshwater Algae

Sunday 1 July - Friday 6 July 2012

Advanced Course Blue-Green and Green Algae

Sunday 8 July - Thursday 12 July 2012



Durham Cathedral and River Wear

The aim of these courses is to train water management staff and researchers in the identification of freshwater algae. Ecological information on nuisance and the more widespread species is also included, together with some aspects of monitoring and how to deal with problem algae. The *Introductory Course* deals mainly with algae from the UK and adjacent countries, but the *Advanced Course* includes some information from other regions. In addition to the three hundred or so from the UK who have attended the courses since they started in 1992, participants in recent years have come from many other countries, including Costa Rica, Germany, India, Ireland, Italy, New Zealand, Qatar, Sierra Leone, Singapore, South Africa, Thailand, Turkey and USA.

Introductory Course Starts late afternoon on Sunday 1st July and ends after lunch on Friday 6th July, with an optional excursion to sites on River Wear on the Friday afternoon.

Advanced Course Starts late afternoon on Sunday 8th July and ends at 1600 on Thursday 12th July.

Course leaders Professors David John and Brian Whitton. Dr Alan Donaldson (consultant) assists with both courses. Dr Gordon Beakes (University of Newcastle) and Dr Martyn Kelly (Bowburn Consultancy) contribute to the *Introductory Course*.

Residence and meals are in Hild-Bede College. The College is on a hill above the River Wear and has a fine view over the river and city, including Durham Cathedral (began in 1093 and completed within 40 years) and Durham Castle. Accommodation is provided (without additional charge) for anyone needing to arrive one day early because of travel arrangements and also for the two intermediary days for those attending both courses.

Costs All costs include everything.

Introductory Course The inclusive price for participants other than full-time research students is £900. The discounted price for students is £750.

Advanced Course The inclusive price is £620.

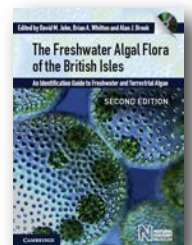
Combined *Introductory* and *Advanced Courses* - inclusive price is £1420. Includes accommodation for one day in advance (if required) and the two days bed and breakfast between courses. Provisional and firm reservations for one of the places (15 on *Introductory Course*, 10 on *Advanced Course*) should be made by email to b.a.whitton@durham.ac.uk, to be followed by an official order or a deposit of £50 to B.A. Whitton Algal Training, 74 Archery Rise, Durham DH1 4LA, UK. This deposit need not be paid by overseas people provided their order is made from an official organization. Payment is required by 15 May. A full refund (excluding any deposit) will be made to anyone cancelling before 15 May, while 50% refund will be made to anyone cancelling by 15 June.

What to Bring Participants are encouraged to bring boots for a short field visit and (preferably) fresh samples from their local waters. Everything else is provided, including access to the new edition of *The Freshwater Algal Flora of the British Isles* (John, Whitton, Brook 2011), associated DVD and several identification CDs. Some people may find it useful to bring their own portable computer, but the risk of loss must be covered by their own insurance.

FURTHER INFORMATION

Anyone wanting further information is welcome to contact Brian Whitton:

b.a.whitton@durham.ac.uk phone +44(0)191-386-7504 or David John: d.john@nhm.ac.uk or d_m_john@ntlworld.com phone +44(0)208-464-6367 or +44(0)7920124825 (mobile)



SUMMER FIELD OPPORTUNITIES AT IOWA LAKESIDE LABORATORY

Ecology and Systematics of Diatoms

This course is an intensive, field-oriented class appropriate for advanced undergraduate students, graduate students, and post-graduate workers in ecology, geology, environmental sciences, and diatom taxonomy. We will immerse ourselves in the diverse aquatic habitats and fossil deposits of the Upper Midwest to observe freshwater diatoms. Students will learn techniques in diatom collection, preparation, and identification. Lectures will cover taxonomy, systematics and biogeography of most freshwater genera. Students will complete individual voucher collections using modern database techniques and produce written species treatments using electronic publication guidelines. Students are encouraged to bring research materials. The use of diatoms in ecological and paleoecological research will be discussed. Class size is limited to ten students and early enrollment is encouraged. **May 21 to June 15, 2012**, taught by Sarah Spaulding and Mark Edlund. Prerequisite: two semesters of introductory biology or geology and/or consent of the instructor.



Scholarships are available through Iowa Lakeside Lab (**deadline April 15**) including The **Charlie Reimer Scholarship**, which is awarded to one student annually based on scholastic merit. For more information see the scholarship section of the Lakeside Lab web site

<http://www.continuetolearn.uiowa.edu/lakesidelab/ustudents/scholarships.html>

John C. Kingston Diatom Fellowship

The John C. Kingston Diatom Fellowship was established in 2004 by colleagues, friends and family to honor John's memory and to recognize the contributions he made to the study of diatoms at Iowa Lakeside Laboratory. Each summer, an award is made to one advanced student or researcher to serve as teaching assistant for the Ecology and Systematics of Diatoms course and to engage in research. A strong preference will be given to applicants who have previously taken the Diatoms course, or have equivalent experience. The fellowship includes a stipend and room and board at Lakeside and is available to domestic and international students, at the graduate level or advanced undergraduate level. The fellowship will be awarded to a student who shows strong potential toward a career in teaching and diatom research and who embraces the ideals that John had toward science and life.

Applicants should submit a cover letter, CV, and statement of teaching, research, and career interests to the Lakeside Lab Executive Director by email (peter-vanderlinden@uiowa.edu) by **February 28, 2012**. The JC Kingston Fellowship is administered by the Friends of Lakeside Lab.

REGISTRATION AND CONTACTS:

Course descriptions: [http://](http://www.continuetolearn.uiowa.edu/lakesidelab/)

www.continuetolearn.uiowa.edu/lakesidelab/

Registration: [http://](http://www.continuetolearn.uiowa.edu/lakesidelab/ustudents/registration.html)

www.continuetolearn.uiowa.edu/lakesidelab/ustudents/registration.html

Instructor: Mark Edlund mbedlund@smm.org

Instructor: Sarah Spaulding

sarah.spaulding@colorado.edu



9th International Workshop GAP, Málaga (SPAIN), 16-26 September, 2012

<http://www.gap9.uma.es>

TITLE: Study of primary productivity by nitrogen pulsed-supply in phytoplankton and marine macrophytes: experimental approach

DATE 16-26 September 2012

PLACE: Málaga (SPAIN)

University of Málaga (UMA)

Spanish Institute of Oceanography (IEO)

Experimental Center "Grice-Hutchinson"



ACCOMODATION: Málaga and Fuengirola

COORDINATORS: Félix L. Figueroa (UMA) Felix_lopez@uma.es and Jesús Mercado (IEO) jesus.mercado@ma.ieo.es

FRESHWATER ALGAE COURSE 2012

Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire, Scotland (near the tourist area of Pitlochry),

Friday, 8 June – Friday, 15 June, 2012. This is the 17th year that the course has been offered.

The Kindrogan Field Centre is a self-contained and fully equipped field station set in wooded grounds on the banks of the River Ardle in the picturesque Scottish Highlands. It lies within easy reach of some of the remotest areas of the UK with inspiring landforms and a rich range of wildlife habitats. Take a virtual tour inside the centre and the surrounding area at: <http://www.field-studies-council.org/kindrogan/>

What is the course about?

The course takes full advantage of the excellent range of relatively unspoiled aquatic and terrestrial habitats in this beautiful area of Highland Perthshire to provide a sound introduction to the recognition, identification and ecology of freshwater algae. Emphasis will be placed on the use of the microscope and taxonomic keys (print and electronic) for identification to generic and species level, but also broader aspects of algal morphology, structure, reproduction, and classification (morphological and molecular). We normally see live examples of all major algal groups, including freshwater reds and browns. For those with some prior knowledge of the algae, we hope that the opportunity to study samples from a range of habitats will broaden their knowledge and/or allow them to focus on particular groups. Field trips, on foot or by vehicle, will be varied, but not strenuous and will be complemented by laboratory work, illustrated talks and class discussion. An all-day field trip will sample numerous lochs, streams, rivers and marshes, including a whisky distillery tour. The last evening we assemble in the bar for our world-famous “algal charades”.



Who are the course tutors?

Dr Eileen Cox and Prof Elliot Shubert have taught this course for the past 16 years and they have a wide-ranging expertise on freshwater algae. Eileen and Elliot conduct research at The Natural History Museum, London, specialising in diatoms and green algae respectively. Eileen has published a key to live diatoms. Elliot has published a key to the non-motile coccoid and colonial green algae and is Associate Editor for the *European Journal of Phycology* and Editor-in-Chief of *Systematics and Biodiversity*. We will be joined for part of the course by **Guest Tutor, Dr Laurence Carvalho**, Centre for Ecology and Hydrology, who will give a presentation on the EU Water Framework Directive with special reference to lakes and will describe their counting methods, and **Guest Lecturer, Prof Emeritus Geoff Codd**, University of Dundee, who will give a presentation on cyanobacterial toxins.

What is the full cost of the course?

The course costs **£475** per person (approx. **550€** or **\$745**), which includes sole occupancy accommodation (shared accommodation is **£405**) + all meals (please notify the Centre if you have any special dietary needs)+ transport from/ to Pitlochry and to field sites + use of the library and internet + tuition. This is excellent value for money and costs significantly less than other freshwater algal courses on offer.

Is there support for students? Yes, support for a student stipend is available. Do not delay, apply today!

1. **The British Phycological Society:** <http://www.brphycdoc.org>

The deadlines for applications are: 1 March, 1 June, 1 October, & 1 December. The sooner you apply, the better are your chances of receiving a stipend. Please note that you have to be a *bona fide* student member of BPS for at least three-months prior to making an application for financial support.

http://www.brphycsoc.org/documents/BPS_A&TForm_%20Student_Bursary_2011.doc

2. **Phycological Society of America:** <http://www.psaalgae.org>

Graduate students who are members of the are eligible for financial support to attend a phycology course at a field station from the Hannah T. Croasdale Fellowship. <http://www.psaalgae.org/website/opportunities/grants/croasdale.html>

3. **The British Ecological Society:** <http://www.britishecologicalsociety.org>

Specialist Course Grants available for BES members only (undergraduate and graduate) allocated on a first-come-first-served basis. The application is available at this URL. <http://www.britishecologicalsociety.org/grants/education/scg.php>

For detailed information about the Kindrogan Field Centre:

<http://www.field-studies-council.org/centres/kindrogan.aspx>

If you have any other queries, please contact: e.shubert@nhm.ac.uk

Prof Elliot Shubert, The Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom

Tropical Field Phycology

Bocas del Toro Research Station of the Smithsonian Tropical Research Institute, and as part of the Training in Tropical Taxonomy workshop series from 7-19 May 2012.

Course Leaders: Drs. Brian Wysor (Roger Williams University), Wilson Freshwater (University of North Carolina Wilmington) and Suzanne Fredericq (University of Louisiana).

This course is designed to orient participants to the biodiversity of tropical marine floras through field and laboratory work. Specifically, it will emphasize the development or enhancement of practical skills essential for identification, characterization and preservation of tropical marine macroalgae (seaweeds).



Sampling forays in diverse environments (e.g., mangrove habitats, seagrass beds, coral reefs, sponge communities) on protected and exposed shorelines throughout the Bocas del Toro Archipelago will complement morphological and molecular investigations in the laboratory.

- Morphological investigation will emphasize the preparation of specimens for microscopic examination and the interpretation of vegetative and reproductive structures in living material in the light of published observations from the primary literature. Participants will contribute to the development of the Bocas del Toro Biodiversity Inventory (http://biogeodb.stri.si.edu/bocas_database/?&lang=eng) and the development of a bi-lingual field guide to the local marine flora through the production of individual species pages documenting microscopical and field observations (e.g., [Lobophora variegata](#)).
- Molecular investigation will emphasize sampling and preservation of material for subsequent analysis of DNA sequences for barcoding, phylogenetic and biogeographical studies. Data derived from this part of the class will contribute to the Bocas del Toro Barcode of Life Project.

The course will be taught in English. Application materials must be received by **15 February, 2012**.

Application details are described on-line:

http://www.stri.si.edu/sites/taxonomy_training/future_courses/2012/2012_phycology.html



Marine Algae Course – Summer 2012

Friday Harbor Labs
University of Washington

Marine Algae (9 credits, listed as Bio 533)
Session B: July 23- Aug. 17, 2012 (5 weeks)

Instructors:

Dr. Bob Waaland, jrw@uw.edu

Dr. Tom Mumford, tmumford@uw.edu



This course is appropriate for marine biologists, botanists and ecologists as well as oceanographers with interests in marine biodiversity, conservation biology, and coastal ecology with an emphasis on macroalgal primary producers. Graduate students and advanced undergraduates students (juniors, seniors) are encouraged to apply.

The University of Washington's Friday Harbor Lab's provides a world-class combination of laboratory facilities and a great variety of marine habitat types with high biodiversity representative of cool-temperate marine habitats. Ready access to a diversity of field sites by small boats and a larger research vessel, labs with seawater aquaria for maintaining specimens and conducting experiments, excellent microscopy facilities, an excellent library and computing facilities with internet access make this an ideal environment for this course. Further information about the Labs can be found at <http://depts.washington.edu/fhl/>

A course in marine algae was first taught by T.C. Frye in 1904 at FHL's predecessor, the Puget Sound Marine Biological Station.

This course explores the biodiversity of marine algae with emphasis on their role in marine ecosystems.

The course will have four major components: 1. Seaweed diversity will be investigated by introducing and practicing the techniques and skills essential for identification of marine macrophytes; 2. The functional role of seaweeds in marine ecosystems will be examined through discussion, laboratory and field methods emphasizing the role of seaweeds as primary producers in coastal marine communities; 3. Quantitative analysis of the distributions and abundances of seaweed populations will be investigated with a combination of lectures, field and lab exercises; 4. Methods for cultivation of seaweeds will be investigated for use at laboratory to commercial scales as tools to elucidate algal life histories, growth rates and development patterns, and physiological responses.



Applications are being accepted until the class is full. Applications are available at:

<http://depts.washington.edu/fhl/studentApplicationInfo.html>

Estimated costs (tuition, room/board, fees will be \$5,569

Two possible sources of Financial Support are from the Friday Harbor Labs:

<http://depts.washington.edu/fhl/studentApplicationInfo.html>

and from the Phycological Society of America's Croasdale Fellowship:

<http://www.psaalgae.org/website/opportunities/grants/croasdale.html>

Upcoming Conferences

NEAS

Registration will open on 27 January 2012 for the 51st Annual Northeast Algal Society (NEAS) Symposium. This year's NEAS will be held at SERC Institute at Schoodic Point in Acadia National Park, Maine Friday, 20 April- Sunday, 22 April 2012. This year's theme is **"Getting the Message Out": gathering resources, exploring techniques, and practicing how to deliver messages to broader audiences.** NEAS is thrilled to have **Dr. Nancy Knowlton**, Sant Chair for Marine Science at the Smithsonian's National Museum of Natural History (USA) as our keynote speaker. Additional activities centered on this communications theme include an active participation session on Saturday as well as a Sunday session focused on communicating scientific messages to different audiences and examining the intersections between science and business and phycology and citizen science. Please see all meeting and registration information at <http://e-neas.org>. All registration, book award, and abstract deadlines for oral and poster presentations are due **9 March 2012**.



Registration for Protist2012 is now open (July 29-Aug 3 in Oslo, Norway)

<http://www.mn.uio.no/bio/english/research/news-and-events/events/conferences-and-seminars/protist2012/>

This is joint meeting between the International Society of Protistologists (ISoP) and the International Society for Evolutionary Protistology (ISEP). The meeting will cover all aspects of research into eukaryotic microbes, both heterotrophic and photosynthetic.

If you are student (or young investigator) who is a member of ISoP (or is willing to become a member of ISoP), you can apply for Travel Support through the Holz-Conner awards.

<http://protozoa.uga.edu/awards/awards.html>

Deadline is **March 31, 2012**

Upcoming PSA Award Deadlines

PSA Croasdale Fellowship

Deadline: March 1, 2012

The Hannah T. Croasdale Fellowships are designed to encourage graduate students to broaden their psychological training by defraying the costs of attending psychology courses at biological field stations. The purpose of the award is to broaden psychological training and not necessarily to further research goals. Proposals to study at field stations associated with universities other than the student's own are especially encouraged.

Please must submit the following materials to Eric W. Linton (address below), Chair of the Grants-In-Aid of Research Committee by electronic submission in PDF or Word .doc format:

1. A complete application (details at <http://www.psaalgae.org/website/opportunities/grants/croasdale.html>)
2. An unofficial copy of your transcripts, if possible.
3. One letter of recommendation from his/her major advisor, sent directly to Dr. Eric Linton.

REMINDER: Students that receive this award will have reporting requirements to the PSA of four items, such as a 1 page final report.

Please see the application web page for complete details.

Additional information on the qualifications and criteria for this award can be found at the PSA website: <http://www.psaalgae.org/website/opportunities/grants/croasdale.html>

Additional questions, and completed applications and letters of recommendation should be sent to:

Dr. Eric Linton, Chair of the Grants-In-Aid of Research Committee, Department of Biology, Central Michigan University, Mount Pleasant, MI 48859 USA. Email: linto1ew@CMICH.EDU

HOSHAW TRAVEL AWARDS

Deadline April 1, 2012

The [Hoshaw Travel Awards](http://www.psaalgae.org/website/opportunities/grants/hoshaw.html) are to help students with their travel expenses to the annual PSA meeting. All other factors equivalent, students who will present their research at the meeting (lecture or poster) will be given priority. The deadline for the completed application is **April 1st or one month before the registration deadline**. Successful applicants will be notified prior to the meeting and the awards will be presented at the meeting. For further information, please see the Hoshaw Travel Award web site (<http://www.psaalgae.org/website/opportunities/grants/hoshaw.html>) or contact: Eric Linton ([email](mailto:linto1ew@CMICH.EDU)).

PHYCOLOGICAL TRAILBLAZER No. 36: Richard E. Norris



Fig. 1. Richard Norris in Hawaii.
(Photo by Terilee Wingate)

Richard Earl Norris, who was born in Seattle, Washington, on April 13, 1926, had a very early introduction to the algae. This early interest sparked a life-long dedication to the algae, both micro- and macro-, of freshwater, marine and brackish habitats, of intertidal and subtidal habitats or out on the high seas, and of all groups. I think that a hallmark of his illustrious career is that he has had such an all-encompassing fascination with the algae. Few contemporary phycologists have maintained such a broad outlook in their research on the algae. Over his long career he published essentially on all categories: red algae (including the corallines), green algae (including prasinophytes), brown algae, Chrysophyceae, diatoms, prymnesiophytes (including the coccolithophorids), choanoflagellates, euglenoids, and dinoflagellates. With David Hibberd,

he was the first to recognize and establish the new division Chlorarachniophyta. His papers cover the “water-front”: systematics, morphology, ecology, ultrastructure, and culturing and life-history studies. In the current age of specialization, it is rare that a researcher carries on such a broad perspective on the algae, and Rich Norris (Fig. 1) is such a rare individual.

As an undergraduate at the University of Washington, Norris took a summer course on algae taught by Prof. H. Weston Blaser at Friday Harbor Laboratories on San Juan Island, and that was pivotal in orienting his future plans toward phycology. For his doctoral research, he studied at the University of California, Berkeley, under the supervision of Prof. G. F. Papenfuss (Norris 1983b). He undertook a study of the Kallymeniaceae, a family of red algae with extremely complicated pre- and post-fertilization stages. He spent long hours at the microscope, and with his camera lucida he unraveled the very complicated pre- and post-fertilization stages to grasp what was going on. In his 1957 thesis publication he explained these stages and also that there was a transition from the polycarpogonial condition to the monocarpogonial system in the genus *Callophyllis*. He also concluded that procarps seemed to have had an independent origin in the family Kallymeniaceae, and he established that the procarpal condition is polyphyletic in the red algae.

After completing his PhD, he stayed in Berkeley, and he and his wife Louisa were employed by the Radiation Laboratory of UC. They

maintained large, bacteria-free cultures of algae of numerous phyla (Norris, L., et al. 1955), and some of these strains were used by Melvin Calvin in his experiments on photosynthesis. Calvin, who would be awarded the Nobel Prize for Chemistry in 1961, elucidated the molecular steps in carbon fixation (the light-independent “Calvin Cycle”). Two of the three Norris children, Richard, Jr., and Jack, were born in Berkeley [Their third child, Laura, would be born in Minneapolis]. In 1955 Norris joined the Botany Department of the University of Minnesota, where he stayed until 1962. During that period in the Twin Cities, he supervised Richard Meyer in his doctoral research and Rita Horner and Robert Rasmussen for their Masters degrees. He also ventured to New Zealand on a Fulbright Fellowship in 1958 and again in late 1962-early 1963, when he made collections of marine algae at Ringaringa and at Halfmoon Bay. He later collaborated with Nancy Adams, Elsie Conway, and Mrs. E. Willa in compiling a list of the algae of Stewart Island (Adams et al., 1974). He has also published on his studies of the phytoplankton observed in Wellington Harbour (Norris, 1964a). He later resumed his earlier interest on the Kallymeniaceae and published on that family in South Africa (1964b), describing the new genus *Thamnophyllis* based on *T. pocockiae* (Fig. 2). With Bryan Womersley, he studied and published on the members of this family from southern Australia (Womersley & Norris, 1971).

(continued)



Fig. 2. *Thamnophyllis pocockiae* R.E. Norris. Paratype (in MICH) from Strandfontein, South Africa. Scale bar: 4 cm.

In 1961 Norris became a staff member of the U. S. National Museum (Smithsonian Institution). At this time there was the ambitious International Indian Ocean Expedition. With support from the U.S National Science Foundation and as part of the U.S. Program in Biology, he joined two cruises of the R/V Anton Bruun in the Indian Ocean, the first cruise within the Bay of Bengal and the second cruise following the 70°E longitude from Bombay to 37°S latitude and returning northward to Sri Lanka on the 80° E longitude. Despite the hardship of a rocking ship on the high seas, he managed to capture photomicrographs of the phytoplankton, depicting living unarmored dinoflagellates (Norris, 1966). *Ceratolithus* had been known only from the fossil state. He was the first to observe living cells of this genus and erected the new family Ceratolithaceae (Norris, 1965a). In another publication Norris (1967a) described “algal consortisms” observed in the plankton. He captured images of living dinoflagellates, silicoflagellates, and diatoms with symbiotic cyanobacteria as well as radiolarians and ciliates harboring zooxanthellae and green algae. He took numerous plankton tows for later examination back in the lab, which resulted in several publications. He was particularly drawn to algal groups that were notoriously difficult to preserve. By

examining the gut contents of salps, he was able to make observations on some rare and unusual species of both calcareous and siliceous nannoplankton (Norris, 1971a, b). Some of this research on these Indian Ocean collections was not published until some years later, such as two elegant studies that included the ultrastructure of two families of coccolithophorids, the Rhabdosphaeraceae and the Calyptosphaeraceae, with keys to the genera (Norris, 1984a, 1985b). He described a new kind of coccolith, the gliscolith, in his new genus *Gliscolithus* (Norris, 1985b, c) (Fig. 3).

While he was in Bombay, India, after the conclusion of his second cruise on the Anton Bruun, Norris received an offer of a position from the University of Washington, his undergraduate alma mater. He accepted the offer and quickly found

O’Kelly, John Hardy, Craig Sandgren, Dong Ho Kim, and Braam Pieterse, and Masters students Ray Hinchman, Fred Weinmann and Dennis Russell. Indeed these students expressed the gamut of algal interests, from freshwater chrysophytes (Sandgren and Munch) to snow algae (Hoham), from marine diatoms (Horner, Russell) to cold-water crustose coralline algae (Lebednik). His student Shirley Van Valkenberg was the first person to succeed in maintaining silicoflagellates in culture (by slightly reducing the salinity and in growing them in large vessels) and to obtain many new insights about their biology and taxonomy, thanks to her obtaining clonal cultures and then observing the range of variation in their skeletons left behind in the culture dishes (Van Valkenberg, 1971a, b; Van Valkenberg & Norris, 1970).

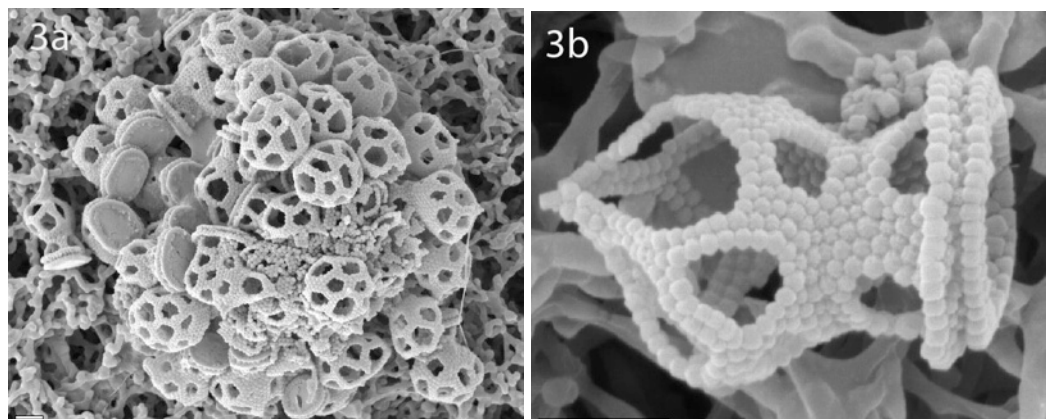


Fig 3. (a). Coccosphere (collapsed) of *Gliscolithus amitakarenae* R.E. Norris and (b) a single coccolith, termed a gliscolith. (Images courtesy of Dr. Claudia Sprengel and Dr. Jeremy Young). Scale bar: 1 μ m.

himself being called upon to mentor several graduate students. Over his tenure at the University of Washington, Norris became mentor to numerous graduate students, both Masters and Doctoral candidates, and because these students themselves had such varied research interests, it caused Rich to move into many new areas of research. He supervised many doctoral students, including John West, Dick Steele, Bob Vadas, Rita Horner, Marilyn Harlin, Shirley Van Valkenberg, Ron Hoham, Phil Lebednik, Tom Mumford, Susan Munch, Charles

Norris had the good fortune of spending many summers teaching at Friday Harbor Labs, and this allowed him to make many discoveries of new records of seaweeds for the local flora (Norris & West, 1966, 1967; Norris & Wynne, 1968; Norris & Hollenberg, 1969). His interests continued to be broad. He studied neustonic marine choanoflagellates from the tidal pools of California and Washington, describing new genera (Norris, 1965b).

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His research included diatoms, and with his student Dennis Russell the new diatom genus *Sameioneis* was described; it grew attached to copepods (Russell & Norris, 1971). Another new diatom genus that he described was *Nanoneis* (Norris, 1973). It had been found in the gut contents of salps from one of his Indian Ocean cruises. His papers also included a broad survey of the class Prasinophyceae (Norris 1980) and fine-structural studies of a new species of *Pyramimonas*. *P. parkeae* (Norris & Pearson, 1975), named for Mary Parke, as well as a fine-structural study of its cell division (Pearson & Norris, 1975).

Norris always made the most of his collecting trips. In 1966 he was invited by Robert Hoshaw and D. A. Thomson to visit the newly established marine laboratory at Puerto Peñasco, Mexico. He noticed the many tidepools that were formed by the receding tides and that these tide pools supported a surprisingly rich microscopic algal flora despite very high water temperatures. He established enriched sea water cultures by sampling the various pools, transported the raw cultures back to his lab in Seattle, and over the following year managed to isolate organisms into unialgal cultures. He observed many interesting taxa this way (Norris, 1967b), but perhaps the most interesting was *Chlorarachnion reptans* (Fig. 4), an amoeboid colonial organism first described by Geitler in 1930 and not seen by anyone since that first account (Geitler, 1930).

Norris maintained this unusual organism in culture for years, and later he collaborated on it with David Hibberd. The two of them were able to provide justification to recognize the new division Chlorarachniophyta and the new class Chlorarachniophyceae (Hibberd & Norris, 1984). Subsequent research by others has led to this division being comprised of seven genera, including *Norrisiella* (Ota et al.,

2007). Balakrishnan's (1980) *Norrissia* is a second honorific.

Rich Norris received funding from Guggenheim Fellowships in the period 1969-1970 that allow him to travel and conduct research in several countries, including Great Britain, France, Italy, and Czechoslovakia. He was always happy to collaborate, and this is demonstrated by his research on *Tetraselmis* with his Japanese colleagues Terumitsu Hori and Mitsuo Chihara. This project was funded by the NSF U.S.-Japan Co-operation Research Program, Rich being given the title of "Esteemed

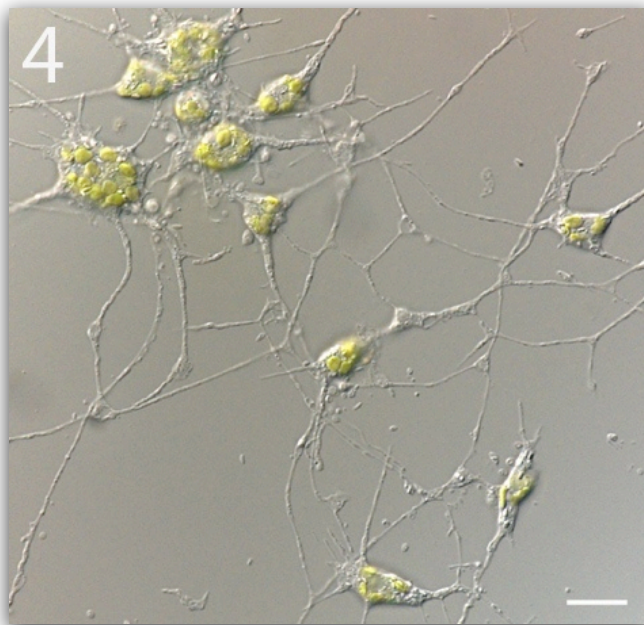


Fig. 4. Colony of *Chlorarachnion reptans* Geitler. (Courtesy of Dr. John Archibald). Scale bar: 10 μ m.

Scientist" from the Japanese Society for the Promotion of Sciences. Using isolates from Japan, the State of Washington, USA, and British Columbia, Canada, these workers concluded that *Tetraselmis*, a genus of green flagellates (Prasinophyceae), expressed in culture a broad spectrum of life-history changes. They concluded that the genera *Prasinocladus*, *Platymonas*, and *Aulacochlamys* should be treated as congeneric with *Tetraselmis* (Norris et al., 1980). Their collaborative research also include ultrastructural studies of the various subgenera that they recognized within *Tetraselmis* (Hori et al., 1982, 1983, 1986). Norris' isolating an unusual marine

euglenoid from a seawater aquaculture tank on Lummi Island, near Bellingham, Washington, led to his collaborating with various colleagues. The same flagellate had been isolated by Øjvind Moestrup from a fjord in Denmark. This collaboration led to the description of the new species *Eutreptiella eupharyngea* (Walne et al., 1986).

From the main campus in Seattle, Norris moved to Friday Harbor Laboratories on San Juan Island, where he was a resident professor, teaching courses in the spring, autumn and summer terms. During a sabbatical leave at the University of the Witwatersrand in

Johannesburg, South Africa, he met Dr. Fiona Getliffe, whom he was to marry in 1977. They returned to life on San Juan Island. But then in 1980, they made the joint decision to move back to South Africa, initially to "Wits" in Jo-burg, where Fiona, with a PhD in plant systematics, was appointed to a faculty position. When their friend and phycologist Richard Pienaar was appointed Chair of the Botany

Department at the University of Natal in Pietermaritzburg, Richard and Fiona made the move to that University, where Fiona was again appointed to a faculty position. It was during this period in Natal that Richard was essentially free to study the marine algal flora of the Natal coast in a serious way. It proved to be one of the most productive periods of his life. There was a prolific output of papers in the years from 1985 through 1993.

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He had eleven publications alone in 1987 and another seven in 1988. These papers were primarily on the red algae of the Natal (now Kwazulu-Natal) coastline with many descriptions of new species, many discoveries of new records for South Africa, and many clarifications. In 1987 Rich and Fiona Norris decided to move from Pietermaritzburg to Cape Town, when Fiona was offered the position of Director of Education at the National Botanical Garden located in Kirstenbosch. Rich was appointed Chief Specialist and Scientist at the National Botanical Institute, Cape Town, and although retired from his academic life, he continued to be funded by CSIR grants and was still very active in his phycological and botanical research.

Fiona Norris was next recruited to take the position of Curator of the Herbarium at the Bernice P. Bishop Museum in Honolulu, Hawaii. So the Norris's once again made a major move, this time from South Africa to Hawaii. For every move all of their prized wooden carvings of African animals would be carefully packed up. Dr. Isabella Abbott offered Richard a research position in the Botany Department. Rich and Izzie had been fellow graduate students under Dr. Papenfuss. They collaborated on publications on the marine algae of Hawaii (Norris & Abbott, 1992; Abbott & Norris, 1993). After several years of island life, Fiona and Rich moved to Fort Worth, Texas, when Fiona was offered a position of Curator and Head of Education at the Botanical Research Institute of Texas. Norris continued to put forth some papers from his work in Hawaii (Norris, 1994a, b, c).

Rich and Fiona looked back at their beloved San Juan Island as the ideal place to eventually retire to. In 1996 they bought a home just north of Friday Harbor Labs, and for a few years they occupied both homes, Rich spending summers on the island to escape the summer heat of Texas. Then upon her own retirement from Fort Worth, Fiona and Rich made the permanent move from Texas to San Juan Island. Their mutual so-called retirement has been extremely active. Both decided to become certified Master Gardeners, and that meant catching a 6 a.m. ferry twice a week for 6 weeks to go to the mainland to take the required courses. They both have been involved in community activities, such as Fiona's serving as Director of Science at the San Juan Nature Institute. Both often give lectures on botanical subjects and act as consultants on botanical topics. They have a large garden and enter the annual San Juan County Fair with their prized plant specimens. I recall being enlisted to help them carry their many Blue Ribbons back home after a successful County Fair. So after a rather peripatetic lifetime, Richard Norris can look back on a professional career of having demonstrated one of the broadest interests in algae, as shown by his publications, and in also having mentored a large cadre of students, who have gone on to their own successful careers.

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Craig D. Sandgren (1951-2011)

A marine and freshwater algal ecologist, Craig Sandgren is best known for his work on the chrysophyte algae on topics ranging from taxonomy to ecology to paleolimnology. His seminal work on chrysophytes remains a mainstay of textbooks and lectures around the world, and his isolates populate many culture collections. He was an authority on reproduction in the group and the formation of their resting cysts. His editorial skills are manifest in his highly-cited 1988 book *Growth and Reproductive Strategies of Freshwater Phytoplankton* (Cambridge Univ. Press). Dr. Sandgren was a faculty member at the University of Wisconsin-Milwaukee for over 25 years, including a five-year term as Department Chair. A Minneapolis native, he received his Bachelor's and Master's degrees from the University of Minnesota, and his PhD from the University of Washington, conducting his research on lakes on San Juan Island and working at Friday Harbor Laboratories. An educator devoted to his undergraduate and graduate students, Craig was especially inspirational on field courses, whether on Lake Michigan, in the Midwestern northern lakes or on the seashore in the Pacific Northwest. Craig is survived by his wife Maria and his daughter Kirsten. Memorials may be sent to: Marine Life Endowment Fund, University of Washington Friday Harbor Laboratories, 620 University Road, Friday Harbor, WA 98250 USA.

Sandgren doing research aboard the *Neeskay* on Lake Michigan, August 7, 2008. [Courtesy of John Karl, UW Madison Sea Grant videographer.]

John A. Berges and Erica B. Young, University of Wisconsin-Milwaukee
(with thanks to Bob Andersen and John Smol)

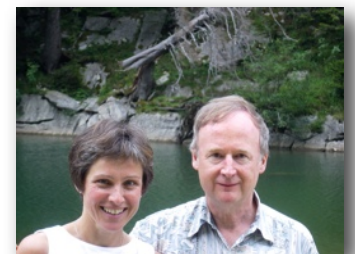
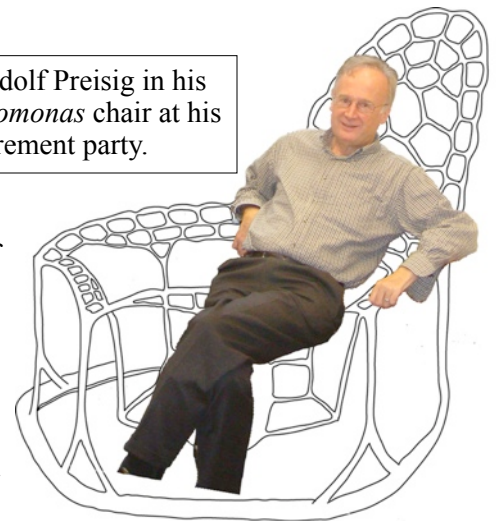
A Tribute to Hans Rudolf Preisig (1949 – 2011)

Hans Rudolf Preisig earned his Ph.D. in 1979 from the University of Zürich, Switzerland, under the supervision of Christopher Cook and Pierre Bourrelly (Museum National d'Histoire Naturelle, Paris). While completing his thesis on biodiversity and seasonal succession of algal communities in Swiss midland ponds, Hans became particularly intrigued with the myriad of flagellated forms in his collections. Soon thereafter, as a Postdoc fellow working with David Hibberd at the Institute of Terrestrial Ecology, Cambridge, England, he became immersed in using TEM to investigate the ultrastructural signatures of flagellated chrysophytes. This work yielded several seminal papers, formed the basis of a multitude of new species, genera (*Chromophysomonas* Preisig & D.J. Hibberd 1982 and *Polylepidomonas* Preisig & D.J. Hibberd 1982) and a family (Paraphysomonadaceae Preisig & D.J. Hibberd 1982), and laid the groundwork for many of his future research endeavors. Indeed, the famous Preisig *Paraphysomonas* chair evolved from these efforts!

Hans was well known for his careful and meticulous work, his eye for detail and his superior microscopy skills. Although probably best known for his work with chrysophytes, his algal expertise was indeed wide ranging and included publications on green flagellates, prasinophytes, eustigophytes, prasinophytes and toxic blue-greens. Together with his close colleague Joergen Kristiansen he wrote two books, probably Hans' most important legacy: *Encyclopedia of Chrysophyte Genera - Bibliotheca Phycologica* (Kristiansen & Preisig 2001) and *Chrysophyte and Haptophyte Algae - Süßwasserflora von Mitteleuropa* (Kristiansen & Preisig 2007). In addition to his teaching and numerous research efforts, Hans devoted an enormous amount of time over two decades as an editor or editorial advisor, including an eight year stint with *Nova Hedwigia*, and helped organize numerous phycological conferences and symposia.

It is with much affection, admiration and honor that we write these few words for our colleague, mentor and close friend, **Hans Rudolf Preisig**.

Hans Rudolf Preisig in his *Paraphysomonas* chair at his retirement party.



Hans and his wife Mariann at a favorite collecting site.

Peter A. Siver (Connecticut College) & Lukas Taxböck (Universität Zürich)

National Center for Marine Algae and Microbiota (formerly CCMP) Renaming the Nation's "Living Library" of Marine Phytoplankton

William H. Wilson, NCMA, Bigelow Laboratory for Ocean Sciences, 60 Bigelow Drive, East Boothbay, ME 04544, USA. wwilson@bigelow.org

The 2011 Algal Biomass Organization's (ABO) Summit in Minneapolis, Minnesota at the end of October was the occasion for the formal announcement of a new name for the CCMP, Bigelow Laboratory's internationally known library of living, single-celled marine phytoplankton. Now called the **Provasoli-Guillard National Center for Marine Algae and Microbiota**, or NCMA, the change reflects addition of bacteria, archaea (an ancient form of bacteria), and viruses to the Center, making it one of the world's first integrated collections of these incredibly abundant, but little known, life forms.

The Center acquires and preserves strains of marine phytoplankton (single-celled, free-drifting plants), seaweeds, heterotrophic protists, marine bacteria, and marine viruses from throughout the ocean, growing and shipping live cultures and related products to scientists around the world. Currently, there are over 2,700 algal strains housed at the NCMA. Building on 30 years of experience in the algae business, NCMA's vision is to become a one-stop service facility for researchers working with marine and freshwater algae, bacteria, archaea, and viruses.

CCMP - NCMA HISTORY

The NCMA originated from private culture collections established by Dr. Luigi Provasoli at Yale University and Dr. Robert (Bob) R. L. Guillard at Woods Hole Oceanographic Institution (Bob Guillard's 90th birthday was featured in the last PSA newsletter (Andersen 2011)). Initially, algal cultures of scientific interest or for aquaculture were generously provided by them to colleagues, thereby fostering research on marine phytoplankton, back then it was called the Culture Collection of Marine Phytoplankton (CCMP). In time, the task of maintaining and distributing cultures became too large.

In March 1980, the Biological Oceanography Program of the National Science Foundation supported a workshop at the University of Rhode Island entitled "Workshop on Recommendations for the Establishment of Marine Phytoplankton Culture Collections". The participants were academic scientists and representatives from the aquaculture industry, American Type Culture Collection, Environmental Protection Agency, and National Science Foundation. The workshop concluded by recommending the establishment of a single, national collection for marine phytoplankton managed by Dr. Bob Guillard. A National Science Foundation grant was awarded to provide partial financial support and an Advisory Committee was appointed.

Initially, the collection was housed at Woods Hole Oceanographic Institution, Massachusetts. In the autumn of 1981 Dr. Bob Guillard and Jeff Brown (who is still a curator at the NCMA) drove the Collection to Bigelow Laboratory for Ocean Sciences, Maine. In 1985, the facility was changed from a "Collection" to a "Center" to reflect the wider service-orientated mission of the facility. When the Center was established, it was named in honor of Dr. Luigi Provasoli and Dr. Bob Guillard as a tribute to their many and lasting contributions to the culture of marine phytoplankton. For additional early history of the NCMA (when it was named CCMP), see Guillard (1988).

In 1989, Dr. Bob Guillard was named Director Emeritus and Dr. Robert A. Andersen was appointed Director. The first published catalog was printed in 1991 (Andersen et al. 1991). In 1992 the Provasoli-Guillard Center for Culture of Marine Phytoplankton was named a National Center and Facility by the [U.S. Congress](#) (Public Law 102-587, Oceans Act of 1992). The Center was re-named as the Provasoli-Guillard National Center for Culture of Marine Phytoplankton to acknowledge its official national standing. The CCMP established its first website in 1996, and it also began providing large scale cultures and DNA to scientists. The CCMP began cryopreserving its strains in 1996, and a second catalog of strains was published in 1997 (Andersen et al. 1997).

In 2009, Dr Andersen was named the second Director Emeritus and Dr. Willie Wilson was appointed as Interim Director, a position he maintained for 1-year until his full appointment to Director in July 2010. Willie renamed the CCMP to Provasoli-Guillard National Center for Marine Algae and Microbiota (NCMA) in October 2011. The addition of microbiota to the collection and name seemed especially fitting given Luigi Provasoli's discoveries over 50 years ago that many algae require associations with bacteria to grow normally. Despite the name change, Willie was careful to emphasize the fact that the CCMP identifier will remain on all algal strains, ensuring continuity with current, past, and future phytoplankton research.

(continued)

WHAT IS IN A NAME?

Renaming an established and well-respected brand is never an easy task. Most phycologists have heard of the CCMP, but many didn't know what the acronym actually stood for. In branding terms, this isn't really an issue, as long as people know what the CCMP brand represents. When algal strains are deposited at the NCMA, they are assigned a number prefixed by the CCMP identifier; this becomes the algae strain's official reference (e.g., CCMP332). Many scientific journals require researchers to deposit strains and officially identify new algae this way; it ensures that future scientists from anywhere in the world can conduct comparative work on the same strain.

The decision to rename the CCMP reflected, in part, the decision to include marine microbiota in the Center's expanding portfolio, but it was also a concerted effort to appeal to a new and burgeoning international industry in algal biomass production. At a time when all federal funding sources are shrinking, it made sense to position the Center to take advantage of this growing private sector industry. A small working group was formed to look at naming options and ideas. In the end, it was fitting that the group came up with the final name after a short brainstorming session with, and enthusiastic endorsement from, Dr. Bob Guillard.

The NCMA earned its "National" title through an act of Congress (as the CCMP), so it was important to include the word in the new name to maintain its visibility as a national facility. "Center" (as stated above) reflects a wider, service-orientated mission (as opposed to calling it a collection). "Marine" differentiates it from the other major algal collection in the United States, the University of Texas Culture Collection of Algae, which focuses on freshwater algae. Including "Algae" in the title was an important move to position the NCMA more visibly in the private sector since researchers, particularly those in the algae biomass industry, use the term 'algae', rather than 'phytoplankton' for searches. Finally, "microbiota" is an inclusive generic name that encompasses bacteria, archaea, and viruses, and keeps the new name from becoming too long and cumbersome.

A big question, however, is why the last "M" is left out of the acronym. To be honest, we just didn't like NCMAM! The more pragmatic reason was simply that in the new naming convention for microbiota added to the Center's portfolio, the prefix will either be NCMA-B, for bacteria; NCMA-V, for viruses; or NCMA-A, for archaea—followed by a systematic numbering as new isolates.

A NEW INTERNET PRESENCE

Another important aspect of NCMA's evolution was a new look for its website (ncma.bigelow.org), which features a logo designed by a collaborative effort between well-known British graphic artist Glynn Gorick and Mahan Graphics in Bath, Maine. The new site also includes a regularly updated "Featured Strain" and "Featured Paper," as well as recent news and announcements.

The featured strain will highlight individual phytoplankton, bacteria, archaea, or viruses from NCMA's rapidly increasing portfolio. When strains are added, depositors (typically scientists in the phycology/microbiota community) often provide a narrative to go with it (e.g., "I was on a cruise in the Antarctic when a whale splashed water on me; I used it to isolate this alga..."). The site will strive to capture some of these depositor-supplied stories, and further embellish them with notes from the curators. It seemed entirely appropriate that the first featured strain is one that was isolated in 1956 by Dr. Bob Guillard. It is *Cyclotella cryptica* CCMP332, an important high-oil containing strain used by the algal oil industry (see ncma.bigelow.org/node/1/view/featured_strain/6 for details).

We estimate that 150–200 scientific papers featuring CCMP-designated algal strains are published every year. The center plans to build a collection of reprints (or links to journal websites) that use NCMA strains.

A NEW HOME

NCMA's relaunch was designed to coincide with its move to the Bigelow Center for Blue Biotechnology on the Laboratory's new campus in December 2011. Funded in part by the Maine Technology Asset Fund, the BCBB will provide modern, spacious, and secure facilities for increased algal growth capacity, a laboratory for sponsored research projects, and a seawater hall in the Center for Ocean Health (to be completed in 2012) that will enable mass algal culture production up to 18,000 liters.

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News

The **First International Volvox Conference** was held this past December in Tucson, AZ.

A full list of abstracts presented at that conference can be obtained from the conference URL (<http://www.unbf.ca/vip/IVC/index.htm>).

Of special note, the two student/postdoc award recipients were:



Noriko Ueki and Takashi Hamaji celebrate their awards (Photo courtesy of A. Nedelcu).

Takashi Hamaji (Kyoto University) for the talk, “Mating type locus of *Gonium pectorale*.”

Noriko Ueki (University of Bielefeld) for the poster entitled “Phototaxis in the multicellular green alga *Volvox*.”

Thanks to PSA for sponsoring prizes for the student presentation awards!



(Photo by Tom Kleindinst, Woods Hole Oceanographic Institution)

John Waterbury wins the Gilbert Morgan Smith Medal

The National Academy of Sciences has awarded John Waterbury, scientist emeritus in the Biology Department at the Woods Hole Oceanographic Institution, the 2012 Gilbert Morgan Smith Medal.

You may see the full story at the Woods Hole Oceanographic Institute news URL:

<http://www.whoi.edu/page.do?pid=7545&tid=282&cid=127149&ct=162>

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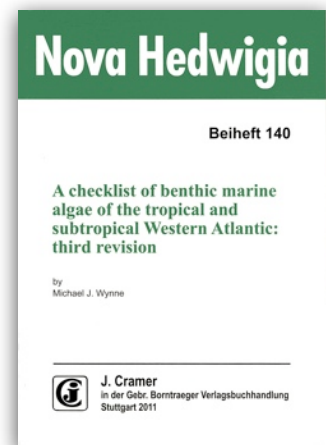
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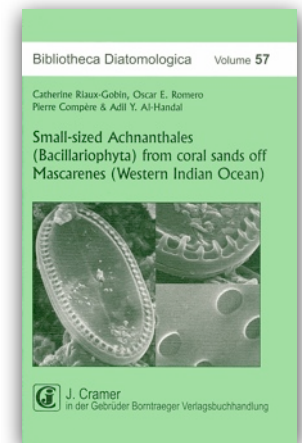
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