

CSB/SJU BIOLOGY DEPARTMENT NEWSLETTER

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October 15, 1999

1. Message from the Chair

You probably know that you shouldn't believe everything that read in the newspaper. As a prime example, last week I was interviewed by the *St. Cloud Times* for an article about autumn leaf color. The article appeared on Friday (Oct 15) and although it was reasonably well written, the writer got one major thing wrong (*i.e.*, anthocyanins, not carotenoids, are the pigments responsible for the color of the prettiest fall leaves). And, this was after he presumably checked my web site where I provide the correct information. Now that my credibility is damaged, you may have a hard time believing this next story because it really stretches the limits of creditability.

One topic that has always fascinated me is the ability of organisms to live in extreme environments. There are many neat examples of organisms that live weird lives. One of my own areas of research has focused on the mechanisms by which fungi, like mushrooms, are able to revive after being dried. A recent report in *Science News* (Volume 156, p 230, October 9, 1999) describes one of the newest examples of life on the edge – Lake Vostok, which is a “near-freezing body of water...locked in perpetual darkness beneath 4,000 meters of ice” in Antarctica, appears to harbor life. A team of glaciologists took a core sample from ice about 100 m above the hidden surface of the lake, melted the ice and found evidence of microbes! Yikes – who knows where life will turn up next!? Now that the weather is turning cold, I'm beginning to feel a little like those critters. Have a great week!

2. Student News:

Anonymous Donation – Dr. Poff reports that an alum who wished to remain anonymous made a \$50 donation to the Biology Club when they were set up for the brat sale on Homecoming Weekend. The Biology Department and Biology Club are very grateful for this generous donation. Many thanks!

Ryan Hansen (Senior, Biology Major) – worked on a research project this summer with Dr. Reagan. The title of his project was “Survival of *Saccharomyces cerevisiae* without the rad27 gene and with the human homologue, FEN-1/Dnase IV”. Among other things, he found that the human homologue was able to compensate, at the highest concentrations (100 fold) for the rad27 gene.

3. Faculty News:

Dr. Marcus Webster - Marcus Webster organized and spoke at the 8th Annual Northern Association of Physiological Ecologists Meeting in Strawberry Point, Iowa. Researchers and graduate students from Iowa State, the University of Wisconsin, Ohio State, St. Thomas, and CSB/SJU attended. Dr. Webster talked about his research (conducted with **Jake Hausauer '98**) on heat acclimation in Zebra Finches."

Dr. Stephen Saupe – is involved with planning activities for an Environmental Education Day that will be sponsored by Stearns County Extension office. And, he is quoted in the October 15 issue of the *St. Cloud Times* about fall leaf color.

Dr.'s. Michael Reagan & David Mitchell were among a group of faculty and administrators who recently submitted a grant to the Howard Hughes Medical Institutes to support research activities in the "post-genomic" sciences. We are very optimistic about the chances for receiving funds to support student and faculty research and increase our molecular presence. Thanks to everyone who worked so hard on this proposal!!

4. Curriculum News

5. Biology Club News: *A report from Kari Recker, Biology Club Co-president*

The brat sale during the Taste of Saints was a great success, considering how cold it was. We sold "out" – there were no brats or hamburgers left. Quite a few students helped out along with Dr.'s. Brown, Poff, and Rodell. Many thanks to those that braved the cold weather and helped or purchased brats.

Our next meeting is Tuesday the 19th at 6:00 p.m. in the New Science Center, room 140. Of course treats will be provided. Also, at this meeting, people will be able to choose this year's t-shirt design.

We are also planning a student internship presentation meeting in early November – be on the lookout for more details. Interested students can connect me if they've had an experience they'd like to present. It would only be about 15 minutes per person and the club would provide treats for those that showed up to see the presentations.

Halloween Science planning is moving along. We will sponsor a morning of spooky scientific activities on October 30. If you would like to help, please contact Betsy Heins or me.

I hope to see you at our meeting on Tuesday.

6. Calendar of Events:

Oct 16	Arboretum Membership Event – SJU Soccer Fields; 4:00 pm
Oct 19	Biology Club Meeting – SC 140; 6:00 p.m.
Oct 19	Peace Studies Conference: SJU – Quad 264; 1:00 – 9:00 pm.
Oct 19	"Men's Health Issues and cancer" Lecture – Matt Byrne; 3:00 SJU Alumni Lounge
Oct 20	Wildlife Conservation in Zimbabwe – by Dr. John Peck, Jr.; St. Cloud State University; Heritage Nature Center, St. Cloud, 7:30 p.m.
Oct 21	"Changing Perceptions of U.S. Oil and Gas Resources Based on Four Successive USGS National Petroleum Assessments" - Dr. Thaddius "Ted" Dyman - ASC; 4 PM
Oct 25	"Colon Cancer" lecture – Barbara Hansmeier, SJU Sexton 200
Oct 30	Halloween Science – Biology Club program for elementary kids
Nov 1	"The Public Health Burden of Physical Inactivity" – Dr. Steven N. Blair, 7:30 pm, Kimberly Ritsche Auditorium, St. Cloud State University.
Nov 2	"Careers Working with the Environment" -TRC@CSB-7:00 PM
Nov 3-5	International Conference on Ethnomedicine and Drug Discovery
Nov 4	NSF Applications are due
Nov 11	"Microbial Magic: The Production of New Drugs by Combinatorial Biology" ; Dr. David Sherman, University of Minnesota; Department of Microbiology
Nov 11	Dr. Sherman will meet with interested students from 3:00 – 3:45 p.m., in the Science Museum, NSC, to discuss graduation school, research, etc.

Dec 2 **“The South African Study Abroad Program 1999: What Really Went On?”**
Dr. Stephen G. Saupe; College of St. Benedict/St. John’s University; Biology
Department; SC 325; 4:00 PM

Feb 15 Deadline for Claire Booth Luce Scholarship Applications

7.Internships/Scholarships/Jobs

Claire Booth Luce Scholarship – Here’s some very exciting news for female, second-year students in the natural sciences: CSB has received a major grant to fund up to four, free-ride (covers tuition, room and board), scholarships for the junior and senior years. These scholarships are for specifically destined for women who are not planning a career in medicine. The application deadline will be February 15, 2000. More details will soon be available.

Tutors Needed to Join the CSB/SJU Upward Bound Team

Tutor responsibilities include:

- One day a week tutoring at 4 UB target schools-2 hours per school- transportation provided
- Attendance at one Saturday meeting a month on CSB/SJU campus-assistance with Saturday programming- three hours
- Weekly meeting with Site Coordinators and UB director- 1 hour
- Role model for high school students
- Tutors needed for all levels of math and science
- Work study and paid positions available

For more info, call Dora Schumacher, Director at 5887 or stop by P2 Richarda Hall, CSB

Opportunity for Research-Minded Undergraduates interested in the

Biomedical Sciences - During the fall semester of 2000, Colgate University will be taking about 20 students to Bethesda, Maryland, on our National Institutes of Health Off Campus Study Semester. Professor Dietz Kessler of the Biology Department at Colgate will be leading the group. While in Bethesda, students will be placed in an NIH research lab, where they will do a one-semester project with an NIH mentor. Students will be expected to work about 30 hours each week on their research. The research experience, along with a final paper, will count as the equivalent of two undergraduate science courses. In addition, the Colgate faculty member will either teach or arrange to have taught two additional courses designed to meet the requirements of a liberal arts curriculum. For the fall of 2000, all students will take Biology 492 Topics in the Primary Literature of the Molecular Biosciences. This discussion course requires students to use important journal papers from their research projects as the focus for class reading and critical analysis. Students may choose either Chem 353 Proteins and Nucleic Acids, or Biology 451 Topics in Advanced Cell Physiology for their second course.

They are looking for students with strong backgrounds and motivation in the biomedical sciences, and, particularly, qualified students from traditionally underrepresented groups. More information and a downloadable application form is available on our NIH Study Group Web site at: <http://classes.colgate.edu/NIHStudyGroup/NIH.html>. The deadline for applications is November 19, 1999.

Looking for a Job in the Environmental Field? Perhaps one of the positions or internships in our updated list is right for you.

<http://plaza.edf.org/jobs.nsf>

8. Seminars/Lectures/Symposia:

There are some great seminars coming in the next few months (see Calendar of Events). Mark your calendars now.

“Changing Perceptions of U.S. Oil and Gas Resources Based on Four Successive USGS National Petroleum Assessments”- T.S. Dyman, U.S.

Geological Survey, Denver, CO 80225

“Wildlife Conservation in Zimbabwe” – Dr. John Peck, Jr. will speak about elephants, rhinos, giraffes at the meeting of the Central Minnesota Audubon Society. It will be held on Wednesday, October 20, at the Heritage Park Nature Center, across from Cub Foods (West) and WalMart in St. Cloud, at 7:30 p.m.

“The Public Health Burden of Physical Inactivity” – Dr. Steven N. Blair, 7:30 pm, Kimberly Ritsche Auditorium, St. Cloud State University. Dr. Blair is the Director of Research at the Cooper Institute of Aerobic Research. He was the senior scientific editor of the 1996 Surgeon General’s report on Physical Activity and Health. According to a recent article in the *St. Cloud Times*, he will “discuss research that points toward physical activity as a primary contributor to the physical well-being of the general public”. Sounds like a great presentation. Mark your calendar.

9. Miscellaneous

Nobel News – by Dr. Michael Reagan

On Oct. 11 the 1999 Nobel prizewinner in Physiology or Medicine was announced. This year’s winner is Gunter Blobel, from the Rockefeller University in New York. Dr. Blobel’s work is on protein targeting. After proteins are synthesized they are directed to various places in the cell consonant with their function. For example, in neurons, proteins that are destined for the synaptic vesicles have a tag which directs them all the way down the axon to the vicinity of the synapse, a distance which can be up to a meter in humans. This tag is a specific sequence of amino acids, and different tags send proteins to different locations in the cell. Dr. Blobel has been working for more than 20 years elucidating this system and has made fundamental insights into proteins targeting. The Nobel foundation has an excellent web site describing this work at:

<http://www.nobel.se/announcement-99/medicine99.html>

Check it out!

ARBORETUM MEMBERSHIP EVENT - Saturday, October 16@ 4:00 pm ((following the football game). Meet at the soccer fields for: tour of the Oak Savanna; hayride, and bonfire with hotdogs and s’mores. New member are welcome!! For more information, contact Father Paul Schwietz, Arboretum Director, x3162.

Scholarship Information

Contact Ms. Johanna Davis, CSB

E-Alumni – Thom Woodward, St. John’s Alumni Director, reports that he will soon contact CSB/SJU alum’s to invite them to join our newsletter mailing list. We are glad that our audience will soon expand and especially excited that there may now be greater interaction between current and past students.

GRE TEST DATES- GRE SUBJECT tests (i.e., Biology) are given on Nov. 6, Dec. 11, and April 8. The GRE General Test is now given on a computer basis only and by appointment at a local test center. The GRE Subjects are still given on a paper-pencil basis. More for information contact the Career Resource Office on either campus.

PLAY AN NEW ENDANGERED SPECIES WORDSEARCH GAME

Locate the names of endangered species in a new interactive word search game (requires a Java-enabled browser). Have fun and learn about these beautiful creatures
http://www.edf.org/Earth2Kids/Games/es_ws.html

CANCER IN ZOOPLANKTON - A brief article in Michigan Sea Grant's newsletter "Upwelling" (Fall 1999) reported the discovery of tumors in freshwater zooplankton. Evidence was presented during the annual meeting of the International Association for Great Lakes Research, Cleveland, in May. Tumors in zooplankters have been reported earlier (1994) from the Baltic Sea but this is the first time photographs have been taken of the abnormalities and that preliminary evidence has been presented that the tumors are cancerous. The affected zooplankton are copepods and Cladocera (AKA water fleas). Predatory species were more likely to have tumors than herbivorous species and tumors were more common near shore than offshore. It is suspected that the occurrence of tumors is recent since zooplankton have been monitored in many programs over the years. On the other hand they may have been missed since monitoring efforts have been restricted to spring and late summer collections. The team will next examine archived collections as well as make new collections both near shore and offshore to see whether there are "hot" spots.

Are you interested in [Volunteering with both People and Animals?](#)

We would like to create a [Pet Assisted Therapy](#) group in conjunction with the local Humane Society and various surrounding hospitals (we already have the ok from both). What this means: Bringing companion animals (mainly dogs and cats) to local hospitals and allowing patients to interact with them. Countless studies have proven this to a very therapeutic form of healing for people. If you're interested call Ahna Brutlag, x5310

[10. Web Sites Worth a Visit:](#) *(have you visited any cool sites lately? Let us know so we can post them here!)*

Are You Interested in Pre-Med?

Check the web site for information: <http://www.users.csbsju.edu/~premed/>

Biology Department Web Site

Don't forget to visit the department's web site at: <http://www.csbsju.edu/biology/>.

The National Academies Web Site:

Includes reports, science in the headlines, research case studies, current projects, education and employment and online editions of various journals. Visit them on the web at: national-academies.org.

[11. Joke of the week:](#) *(a gem submitted by Kelly Deutsch)*

Bill Clinton, George Bush, and Al Gore are on a long flight in Air Force One.

Bush pulls out a \$100 bill and says "I'm going to throw this \$100 bill out and make someone down below happy."

Gore, not wanting to be outdone, says, "If that was my \$100 bill, I would split it into 2 \$50 bills and make two people down below happy."

Of course Clinton doesn't want these two candidates to outdo him, so he chimes in, "I would instead take 100 \$1 bills and throw them out to make 100 people just a little happier."

At this point the pilot, who has overheard all this bragging and can't stand it anymore, comes out and says, "I think I'll throw all three of you out of this plane and make 250 million people happy."

12. Frequently Asked Questions:

For more information, contact:

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